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Index

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Except as indicated, abstracts are by Kenneth J. Chiavetta, editor,
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NATURAL RESOURCES & CLIMATE

Allen, Durward L. THE FUTURE OF WILDLIFE RESOURCES. *J. Soil & Water Conserv.* 27(6): 244-249, illus. Nov.-Dec. 1972. *WR 148: 2*
[Purdue Univ., Lafayette, Ind.] "The fate of wild creatures depends on a resource management strategy that also determines the basic conditions of human welfare."

Nasimovich, A. A., editor. [GEOGRAPHY OF THE USSR. PART 7. ANIMAL RESOURCES OF THE USSR. (GEOGRAPHY OF THE STOCK, UTILIZATION, REPRODUCTION.).] *Itogi Nauki* (Moscow). 232 p. 1969. In Russian with English summ. Price 1 Ruble 94 Kopecks. *WR 148: 2*
Includes the following papers: *Zonal peculiarities of animal resources in the USSR*, Ju. A. Isakov and D. V. Panfilov; *Resources of game animals and birds and their utilization*, A. A. Nasimovich and O. N. Shubnikova; *Resources of water fowl in the USSR, their present state and future prospects*, Y. A. Isakov; *Fur farming*, O. N. Shubnikova; *Fish resources on the territory of the USSR and fishing of the USSR in oceanic and inland waters*, O. N. Shubnikova; and *Literature on animal resources of the USSR 1965-1968 (geography of the stock; its distribution and reproduction)* [1071 titles], M. N. Kerzina.

SOILS

Andrews, Wells F., and others. SOIL SURVEY OF NORTHERN SANTA BARBARA AREA, CALIFORNIA. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 102 p., 10 figs. + single-fold maps based on aerial photos and bound in. June 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 2*

Arno, John R., and others. SOIL SURVEY OF SOMERSET COUNTY, MAINE: SOUTHERN PART. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 74 p., 12 figs. + single-fold maps based on aerial photos and bound in. Sept. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 2*

Brock, A. R., and others. SOIL SURVEY OF VAN WERT COUNTY, OHIO. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 73 p., 6 figs. + single-fold maps based on aerial photos and bound in. July 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 2*

Diedrick, Raymond T. SOIL SURVEY OF POPE COUNTY, MINNESOTA. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 109 p., 13 figs. + single-fold maps based on aerial photos and bound in. Oct. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 2*

SOILS--Continued

Foote, Donald E. SOIL SURVEY OF ISLANDS OF KAUAI, OAHU, MAUI, MOLOKAI, AND LANAI, STATE OF HAWAII. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 232 p., 16 figs. + double-fold maps based on aerial photos and bound in. Aug. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

Gill, Hiram V., and others. SOIL SURVEY OF DESHA COUNTY, ARKANSAS. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 48 p., 14 figs. + single-fold maps based on aerial photos and bound in. Mar. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

Holhubner, E. G., and others. SOIL SURVEY OF EDWARDS AND RICHLAND COUNTIES, ILLINOIS. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 84 p., 12 figs. + single-fold maps based on aerial photos and bound in. Sept. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

Lofton, K. T., and others. SOIL SURVEY OF HARDEMAN COUNTY, TEXAS. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 84 p., 3 figs. + 6 pls. and single-fold maps based on aerial photos and bound in. Apr. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

Maxwell, George R., and others. SOIL SURVEY OF ARKANSAS COUNTY, ARKANSAS. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 74 p., 3 figs. + 1 pl. and single-fold maps based on aerial photos and bound in. Sept. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

McClintock, W. R., Jr., and others. SOIL SURVEY OF MONTGOMERY COUNTY, TEXAS. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 70 p., 9 figs. + single-fold maps based on aerial photos and bound in. Oct. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

McNutt, R. B., and others. SOIL SURVEY OF CHILTON COUNTY, ALABAMA. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 82 p., 6 figs. + single-fold maps based on aerial photos and bound in. Oct. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

Moffitt, William C., and others. SOIL SURVEY OF DEKALB COUNTY, TENNESSEE. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 64 p., 20 figs. + single-fold maps based on aerial photos and bound in. June 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

Pessinger, Ival D., and others. SOIL SURVEY OF LAKE COUNTY, INDIANA. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 94 p., 19 figs. + single-fold maps based on aerial photos and bound in. July 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

Priest, T. W., and others. SOIL SURVEY OF CANYON AREA, IDAHO. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 118 p., 8 figs. + single-fold maps based on aerial photos and bound in. July 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

Sallee, Kenneth H. SOIL SURVEY OF LANE COUNTY, KANSAS. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 62 p., 25 figs. + single-fold maps based on aerial photos and bound in. Nov. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

Shipman, Gordon E., and others. SOIL SURVEY OF YOLO COUNTY, CALIFORNIA. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 182 p., 3 figs. + single-fold maps based on aerial photos and bound in. July 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 3*

SOILS--Continued

Thompson, Charles M., and others. SOIL SURVEY OF STARR COUNTY, TEXAS. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 62 p., 23 figs. + single-fold maps based on aerial photos and bound in. Aug. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 4*

Tyler, M. C., W. E. Bright, and P. J. Barlow. SOIL SURVEY OF MARSHALL COUNTY, MISSISSIPPI. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 70 p., illus. + single-fold maps based on aerial photos and bound in. July 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 4*

Vanatta, Earl S., Jr., and others. SOIL SURVEY OF PINELLAS COUNTY, FLORIDA. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 64 p., 7 figs. + single-fold maps based on aerial photos and bound in. Sept. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 4*

Williams, Lynn H., and others. SOIL SURVEY OF MARION COUNTY AREA, OREGON. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 132 p., 10 figs. + single-fold maps based on aerial photos and bound in. Sept. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 4*

Worster, John R., and others. SOIL SURVEY OF WOODBURY COUNTY, IOWA. *U.S. Dep. Agric. Soil Conserv. Serv. Soil Surv.* i + 87 p., 13 figs. + single-fold maps based on aerial photos and bound in. Sept. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 4*

GENERAL CONSERVATION

Maheshwari, J. K. PLANT WILDLIFE AND CONSERVATION IN SHIVPURI NATIONAL PARK, INDIA. *Biol. Conserv.* 4(3): 214-219, illus. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 4*
[Natl. Bot. Gard., Lucknow 1, Uttar Pradesh, India.]

BIBLIOGRAPHIES, DIRECTORIES, BIOGRAPHY, HISTORY

Howard, Hildegarde. BIBLIOGRAPHY OF LOYE HOLMES MILLER. *Condor* 74(3): 268-271. Autumn 1972. *WR 148: 4*
[Los Angeles County Mus. Nat. Hist., Los Angeles, Calif.] Items span the period 1893-1968.--Courtesy Paul A. Stewart.

PLANTS--FLORAS, COMMUNITIES, TAXONOMY

Herlocker, Dennis J., and Herman J. Dirschl. VEGETATION OF THE NGORONGORO CONSERVATION AREA, TANZANIA. *Canadian Wildl. Serv. Rep. Ser.* no. 19. 39 p., illus. 1972. In English with French, German, and Swahili abstracts. *WR 148: 4*
Abstract: This report presents and discusses a map of vegetation types in the Ngorongoro Conservation Area, Tanzania, East Africa, as a tool in land use planning.

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY

Ling, John K. ADAPTIVE FUNCTIONS OF VERTEBRATE MOLTING CYCLES. *Am. Zool.* 12(1): 77-93. 1972. [From Biol. Abstr. 54(9), 1972.] *WR 148: 4*
[Univ. Newfoundland, St. John's, Newfoundland, Canada.]

Menaker, Michael, editor. BIOCHRONOMETRY / PROCEEDINGS OF A SYMPOSIUM / FRIDAY HARBOR, WASHINGTON / SEPTEMBER 1969. *Natl. Acad. Sci.* (Washington, D.C.). 662 p., illus. 1971. Price $15.50. *WR 148: 5*

Of the 40 papers presented, the following are of particular interest to readers of *Wildlife Review*: *Interdependent parameters of circadian activity rhythms in birds and man*, Jurgen Aschoff, Ursula Gerecke, Armin Kureck, Hermann Pohl, Peter Rieger, Ursula v. Saint-Paul, and Rutger Wever; *Some properties of the system controlling the circadian activity rhythm of sparrows*, Arnold Eskin; *Circadian periodicity of resistance to ionizing radiation in the pocket mouse*, R. G. Lindberg, J. J. Gambino, and P. Hayden; *Synchronization with the photic environment via extraretinal receptors in the avian brain*, Michael Menaker; *Encephalic photoreceptors and their significance in photoperiodic control of sexual activity in Japanese quail*, Kazutaka Homma and Yoshikazu Sakakibara; *Pineal end organ: role in extraoptic entrainment of circadian locomotor rhythm in frogs*, Kraig Adler; *Observations on spectral sensitivities for the phasing of circadian temperature rhythms in* Perognathus penicillatus, S. A. Gordon and G. A. Brown; *A comparative study of circannual rhythms in warblers*, Eberhard Gwinner; *Circannian testicular periodicity in the European starling in the absence of photoperiodic change*, Robert G. Schwab; *On seeking an alternative to the endogenous reproductive rhythm hypothesis in birds*, W. M. Hamner; and *The influence of the pineal organ on the circadian activity rhythm in birds*, S. Gaston.

Neumann, Peter W., and H. Gray Merriam. ECOLOGICAL EFFECTS OF SNOWMOBILES. *Canadian Field Nat.* 86(3): 207-212. July-Sept. 1972. *WR 148: 5*

[Carleton Univ., Ottawa, Ontario, Canada.] Abstract: Ecological impact of snowmobiles was studied in the Ottawa area. Snow structural changes by snowmobiles had significant effects on temperature gradients, water holding capacity and melting rate. Snowshoe hare and red fox mobility and distribution also were affected. Snowmobile damage to hardwood saplings and planted pines was significant. Browsing was unaffected except on damaged saplings.

Vik, Rolf. [NORWEGIAN FAUNA IN "FAUNA" DURING 25 YEARS.] *Fauna* (Oslo) 24 (4): 235-236. 1971. [From J. Mammal. 53(3, suppl.), 1972. In Norwegian with English summ.] *WR 148: 5*

Wodzicki, K. MAN AND HIS ANIMALS. *New Zealand Sci. Rev.* 28(5): 89-102, 5 figs. 1970. *WR 148: 5*

[DSIR, Wellington, New Zealand.] Presidential address by Kazimierz Wodzicki, delivered to the Wellington Branch, Royal Society of New Zealand on the 28th of October, 1970.

Wodzicki, Kazimierz. THE TOKELAU ISLANDS (MEN AND INTRODUCED ANIMALS IN AN ATOLL ECOSYSTEM). *S. Pac. Bull.* 22(1): 37-41, illus. 1972. *WR 148: 5*

[DSIR, Wellington, New Zealand.] The ecology of the Tokelau Islands is described.

Yousef, Mohamed K., Steven M. Horvath, and Robert W. Bullard, editors. PHYSIOLOGICAL ADAPTATIONS / DESERT AND MOUNTAIN. *Academic Press* (New York and London). xiv + 258 p., illus., 6.25 x 9.25 in. 1972. Price $14.50. *WR 148: 5*

Contents: *Some general concepts of physiological adaptations*, E. F. Adolph; *Biophysical principles of acclimatization to heat*, H. S. Belding; *Partitional calorimetry in the desert*, A. Pharo Gagge; *Sweat mechanism in heat*, F. N. Craig; *Some comments on low temperatures in the desert and at high altitudes*, L. D. Carlson; *Cardiovascular and respiratory reactions to heat*, S. Robinson; *Some nutritional and metabolic aspects of exposure to heat*, R. E. Johnson; *Large mammals in the desert*, D. H. K. Lee; *Small mammals in the desert*, W. G. Bradley and M. K. Yousef; *Principles of adaptations to altitude*, U. C. Luft; *Psychophysiological implications of life at altitude and including the role of oxygen in the process of aging*, R. A. McFarland; *Physiology of work at altitude*, S. M. Horvath; *The hypoxias of altitude, of anemia, and of carbon monoxide poisoning*,

WILDLIFE--BIOTAS, ECOLOGY, NATURAL HISTORY--Continued

W. H. Forbes; *Physiology of respiration at altitude*, B. Balke; *Vertebrates at altitudes*, R. W. Bullard; and *Body fluids, body composition, and metabolic aspects of high-altitude adaptation*, C. F. Consolazio, H. L. Johnson, and H. J. Krzywick.

WILDLIFE--NATURAL AREAS & REFUGES

Medway, Lord. IMPORTANCE OF TAMAN NEGARA IN THE CONSERVATION OF MAMMALS. *Malay Nat. J.* 24(3-4): 212-214. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 6*

Sutherland, Wallace J. E. DEVELOPMENT OF THE OLAMBWE VALLEY GAME RESERVE IN SOUTHWEST KENYA. *Biol. Conserv.* 4(2): 148-150. Jan. 1972. [From J. Mammal. 53 (3, suppl.), 1972.] *WR 148: 6*

Weber, Bruce E. A PARKS SYSTEM FOR WEST MALAYSIA. *Oryx* 11(6): 461-469. Sept. 1972. *WR 148: 6*
Seven major reserves and six national monuments are proposed.

WILDLIFE--NATURE PROTECTION & RARE & EXTINCT SPECIES

Coimbra-Filho, Adelmar F. TRES FORMAS DE AVIFAUNA DO NORTESTE DO BRASIL AMEACADAS DE EXTINCAO: *TINAMUS SOLITARIUS PERNAMBUCENSIS* BERLA, 1946, *MITU M. MITU* (LINNAEUS, 1766) E *PROCNIAS A. AVERANO* (HERMANN, 1783) (AVES-TINAMIDAE, CRACIDAE, COTINGIDAE). [THREE FORMS OF AVIFAUNA OF NORTHEASTERN BRAZIL THREATENED WITH EXTINCTION: *TINAMUS SOLITARIUS PERNAMBUCENSIS* BERLA, 1946, *MITU M. MITU* (LINNAEUS, 1766) AND *PROCNIAS A. AVERANO* (HERMANN, 1783) (AVES-TINAMIDAE, CRACIDAE, COTINGIDAE).] *Rev. Bras. Biol.* 31(2): 239-247, illus. 1971. [From Biol. Abstr. 54(12), 1972. In Portuguese with English summ.] *WR 148: 6*
[Inst. Conservacão Nat., Rio de Janeiro, Brazil.]

WILDLIFE--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION

Crook, John Hurrell. SOCIAL BEHAVIOUR IN BIRDS AND MAMMALS / ESSAYS ON THE SOCIAL ETHOLOGY OF ANIMALS AND MAN. *Academic Press* (London & New York). xl + 492 p., illus., 6 x 9.25 in. 1970. Price $21.00. *WR 148: 6*
Contents: *Introduction--social behaviour and ethology*, J. H. Crook; *Feeding dispersion in some overwintering wading birds*, J. D. Goss-Custard; *Ecological determinants of breeding adaptations and social behaviour in two fish-eating birds*, K. E. L. Simmons; *Problems of social structure in forest monkeys*, F. P. G. Aldrich-Blake; *The socio-ecology of primates*, J. H. Crook; *Effects of population density on behaviour in rodents*, J. Archer; *Gender role in the social system of quelea*, J. H. Crook and P. A. Butterfield; *The pair bond in the zebra finch*, P. A. Butterfield; *Communication by facial-visual signals*, I. Vine; *The adaptive radiation of parental care in waterfowl*, J. Kear; *Perceptual factors and observational learning in the behavioural development of young chicks*, E. Cronhelm; and *Visual experience and early social behaviour in chicks*, S. J. Dimond.

Whittow, G. Causey, editor. COMPARATIVE PHYSIOLOGY OF THERMOREGULATION. VOLUME I. INVERTEBRATES AND NONMAMMALIAN VERTEBRATES. *Academic Press* (New York and London). ix + 333 p., illus., 6.25 x 9.25 in. 1970. Price $17.50. *WR 148: 6*
Contents: *Aquatic invertebrates*, F. John Vernberg and Winona B. Vernberg; *Terrestrial invertebrates*, J. L. Cloudsley-Thompson; *Fish*, F. E. J. Fry and P. W. Hochachka; *Amphibia*, Bayard H. Brattstrom; *Reptiles*, James R. Templeton; and *Birds*, William R. Dawson and Jack W. Hudson.

WILDLIFE--MORPHOLOGY, PHYSIOLOGY, BEHAVIOR, MIGRATION--Continued

Zug, George R. A CRITIQUE OF THE WALK PATTERN ANALYSIS OF SYMMETRICAL QUADRUPEDAL GAITS. *Anim. Behav.* 20(3): 436-438, 1 fig. Aug. 1972. *WR 148: 7*

[Natl. Mus. Natur. Hist., Washington, D.C.] Abstract: The walk pattern method of symmetrical gait analysis does not differentiate between lateral sequence and diagonal sequence gaits in which the forefoot support patterns are identical. Therefore, it is necessary to indicate the sequence of support posture. Gaits of similar support sequence but with different proportions of fore- to hindfoot support per stride are likely to be statistically different. Additional support postures can be incorporated in the walk pattern, thereby permitting a comparison of running and asymmetrical gaits.

WILDLIFE--POLLUTION

Advisory Committee on Oil Pollution of the Sea Research Unit on the Rehabilitation of Oiled Seabirds. RECOMMENDED TREATMENT OF OILED SEABIRDS. *Univ. Newcastle Upon Tyne.* 10 p. June 1972. *WR 148: 7*

Supersedes earlier recommendations of the Royal Society for the Protection of Birds. Contents: Introduction, Essential facilities and requirements, Capture, Preliminary treatment, Transportation, Selection of birds for treatment, Cleaning, Aftercare, Feeding, Release, and Records.

Alexandersen, K., and K. Lamberg. [OIL DEATHS.] *Feltornithologen* 13: 90-91. 1971. [From Ibis 115(1), 1972. In Danish.] *WR 148: 7*

Particulars of a serious mortality after Christmas 1970 near Samsø in the Kattegat; at least 8,000 birds were involved, especially eider *Somateria mollissima.*

Bagley, George E., and Eugene Cromartie. ELIMINATION PATTERN OF AROCLOR 1254 COMPONENTS IN THE BOBWHITE. *J. Chromatography* 75: 219-226. 1973. *WR 148: 7*

[Environmental Protection Agency, Washington, D.C.]

Bailey, S., P. J. Bunyan, D. M. Jennings, and A. Taylor. HAZARDS TO WILDLIFE FROM THE USE OF DDT IN ORCHARDS. *Pestic. Sci.* 1: 66-69, 2 figs. Mar.-Apr. 1970. *WR 148: 7*

[Pest Infestation Control Lab., Min. Agric. Fish. & Food, Tolworth, Surrey, England.] Abstract: An investigation into the poisoning of birds with 1,1,1-trichloro-2,2-di(4-chlorophenyl) ethane (DDT) on a fruit farm in South-East England is described. Pesticide levels in wild birds were sufficient to be held responsible for deaths. It is suggested that levels in samples of soil, earthworms, sludge, eggs, etc. did not indicate the source of the poisoning. Examination of caged birds following exposure to normal spraying indicated little hazard from this type of operation. Some discussion of the assessment of levels of intoxication is included.

Belisle, Andre A., William L. Reichel, Louis N. Locke, Thair G. Lamont, Bernard M. Mulhern, Richard M. Prouty, Robert B. DeWolf, and Eugene Cromartie. RESIDUES OF ORGANOCHLORINE PESTICIDES, POLYCHLORINATED BIPHENYLS, AND MERCURY AND AUTOPSY DATA FOR BALD EAGLES, 1969 AND 1970. *Pestic. Monit. J.* 6(3): 133-138. Dec. 1972. *WR 148: 7*

[Patuxent Wildl. Res. Cent., Laurel, Md.] Abstract: Thirty-nine bald eagles found sick or dead in 13 states during 1969 and 1970 were analyzed for pesticide residues. Residues of DDE, dieldrin, polychlorinated biphenyls (PCB's), and mercury were detected in all bald eagle carcasses; DDD residues were detected in 38; DDT, heptachlor epoxide, and dichlorobenzophenone (DCBP) were detected less frequently. Six eagles contained possible lethal levels of dieldrin in the brain, and one contained a lethal concentration of DDE (385 ppm) in the brain together with 235 ppm of PCB's. Autopsy revealed that 18 bald eagles were illegally shot; other causes of death were impact injuries, electrocution, emaciation, and infectious diseases.

Benson, W. W., and Pamela Smith. PESTICIDE LEVELS IN DEER. *Bull. Environ. Contam. Toxicol.* 8(1): 1-9, 2 figs. July 1972. *WR 148: 8*
[Idaho Dep. Health, Boise.] *"Odocoileus hemionus."*

Bösenberg, K. DIE NESTLINGSENTWICKLUNG BEI EINIGEN HÖHLENBRÜTERN WÄHREND EINER AVIOCHEMISCHEN MAIKÄFERBEKÄMPFUNG. [THE DEVELOPMENT OF NESTLINGS OF HOLE-NESTING BIRDS FOLLOWING CHEMICAL SPRAYING FOR THE CONTROL OF COCKCHAFERS.] *Beitr. Vogelkunde* 18: 123-136. 1972. [From Ibis 115(1), 1972. In German.] *WR 148: 8*
The results of spraying (from the air) a mixture of Lindane and DDT, against cockchafers, on hole-nesting birds. Growth rates of nestlings were reduced below those in a nearby unsprayed area. Observations on feeding frequencies are also given.

Bradfield, Paul L. ROBIN POPULATION CHANGES AND PESTICIDE TRANSFORMATIONS AFTER METHOXYCHLOR REPLACES DDT FOR CONTROL OF DUTCH ELM DISEASE. *Ph.D. thesis, Mich. State Univ.* vii + 56 p., 4 figs. 1972. *WR 148: 8*
Field studies and laboratory results both indicate that some robins will die when eating earthworms containing 20 to 30 ppm DDT plus DDD. Worms from soils containing four or more ppm DDT plus DDD can obtain the necessary 20 plus ppm to kill robins. All laboratory work indicates that methoxychlor in the amounts found in the field, and in even greater amounts, had no observed effect on robins and is accumulated at less than five percent of the rate of DDT, by birds.--From abstr.

Bunyan, P. J., J. Davidson, and M. J. Shorthill. HEPATIC GLUCOSE-6-PHOSPATE DEHYDROGENASE AND 6-PHOSPHOGLUCONATE DEHYDROGENASE LEVELS IN JAPANESE QUAIL FOLLOWING THE INGESTION OF *P,P'*-DDT AND RELATED COMPOUNDS. *Chem. Biol. Interactions* 2: 175-182. 1970. *WR 148: 8*
[Pest Infestation Control Lab., Min. Agric. Fish. & Food, Tolworth, Surrey, England.] *"Coturnix coturnix japonica."*

Bunyan, P. J., D. M. Jennings, and F. J. S. Jones. ORGANOPHOSPHORUS POISONING: A COMPARATIVE STUDY OF THE TOXICITY OF CHLORFENVINPHOS [2-CHLORO-1-(2', 4',-DICHLOROPHENYL) VINYL DIETHYL PHOSPHATE] TO THE PIGEON, THE PHEASANT AND THE JAPANESE QUAIL. *Pestic. Sci.* 2: 148-151. July-Aug. 1971. *WR 148: 8*
[Pest Infestation Control Lab., Min. Agric. Fish. & Food, Tolworth, Surrey, England.] Abstract: The acute oral toxicity of chlorfenvinphos [2-chloro-1-(2',4',-dichlorophenyl) vinyl diethyl phosphate] was measured in pigeon *(Columba livia)*, pheasant *(Phasianus colchicus)*, and quail *(Coturnix coturnix japonica)* and the compound was shown to be particularly toxic to pigeons. Additionally, all three species were fed chlorfenvinphos at 100 ppm in their diet for two or four weeks and esterase measurements were made by conventional and electrophoretic methods on extracts of liver, kidney and brain. The conventionally measured esterase inhibition correlated well with the acute oral toxicity figures. A more detailed study of the histochemically stained electrophoregrams showed some discrepancies compared with conventional methods but offered a possible explanation of the inter-species toxicity difference in that it revealed differential inhibition of some brain iso-esterases in pigeon but not in pheasant or quail.

Bunyan, P. J., D. M. Jennings, and Archie Taylor. ORGANOPHOSPHORUS POISONING / SOME PROPERTIES OF AVIAN ESTERASES. *J. Agric. Food Chem.* 16(2): 326-331, 4 figs. Mar.-Apr. 1968. *WR 148: 8*
[Pest Infestation Control Lab., Min. Agric. Fish. & Food, Tolworth, Surrey, England.]

Bunyan, P. J., and A. Taylor. ESTERASE INHIBITION IN PHEASANTS POISONED BY O,O-DIETHYL-S-(ETHYLTHIOMETHYL)-PHOSPHORODITHIOATE (THIMET). *J. Agric. Food Chem.* 14(2): 132-137, 6 figs. Mar.-Apr. 1966. *WR 148: 8*
[Pest Infestation Control Lab., Min. Agric. Fish. & Food, Tolworth, Surrey, England.]

Bunyan, P. J., A. Taylor, and M. G. Townsend. THE EFFECTS OF 1,1-DI- *P*-CHLOROPHENYL-2,2,2-TRICHLOROETHANE (DDT) AND 1,1-DI- *P*-CHLOROPHENYL-2,2-DICHLOROETHYLENE (DDE) ON HEPATIC MICROSOMAL OXIDASE IN THE RAT AND JAPANESE QUAIL. *Biochem. J.* 118. p. 51-52. 1970. *WR 148: 9*

[Pest Infestation Control Lab., Min. Agric. Fish. & Food, Tolworth, Surrey, England.]

Bunyan, P. J., M. G. Townsend, and A. Taylor. PESTICIDE-INDUCED CHANGES IN HEPATIC MICROSOMAL ENZYME SYSTEMS. SOME EFFECTS OF 1,1-DI*(P*-CHLOROPHENYL)-2,2,2-TRICHLOROETHANE (DDT) AND 1,1-DI*(P*-CHLOROPHENYL)-2,2-DICHLOROETHYLENE (DDE) IN THE RAT AND JAPANESE QUAIL. *Chem. Biol. Interactions* 5: 13-26, 4 figs. 1972. *WR 148: 9*

[Pest Infestation Control Lab., Min. Agric. Fish. & Food, Tolworth, Surrey, England.] *"Coturnix coturnix japonica."*

Causey, Keith, Sherwood C. McIntyre, Jr., and Rex W. Richburg. ORGANOCHLORINE INSECTICIDE RESIDUES IN QUAIL, RABBITS, AND DEER FROM SELECTED ALABAMA SOYBEAN FIELDS. *J. Agric. Food Chem.* 20(6): 1205-1209. Nov.-Dec. 1972. *WR 148: 9*

[Auburn Univ., Auburn, Ala.] Abstract: Samples of edible meat were collected from bobwhite quail *(Colinus virginianus)*, swamp and cottontail rabbits *(Sylvilagus aquaticus* and *S. floridanus)*, and white-tailed deer *(Odocoileus virginianus)* found in or adjacent to selected soybean fields in Alabama and from areas with little or no history of insecticide use. Samples were analyzed for residues of organochlorine and organophosphate insecticides. DDT and its metabolites (DDT + DDE + DDD) were the only insecticides occurring consistently in the samples tested. Toxaphene, heptachlor epoxide, and dieldrin were detected in a small percentage of the animals. Total DDT residues (DDT + DDE + DDD reported on a lipid basis) averaged 17.08±, 3.00±, and 2.47± ppm, respectively, for bobwhite quail, white-tailed deer, and rabbits collected from treated soybean fields. Total DDT residues averaged 1.68±, 0.10±, and 0.05± ppm, respectively, for bobwhite quail, white-tailed deer, and rabbits collected from areas with little or no history of insecticide application.

Cool, Kay L., Raymond L. Linder, and Donald R. Progulske. ADOPTIVE BEHAVIOR OF CAGED PHEASANTS EXPOSED TO CHICKS AND DIELDRIN. *Am. Midl. Nat.* 88(2): 262-269. Oct. 1972. *WR 148: 9*

[504-52-5128, Co. A 2132 Armor, APO 09045, New York.] Abstract: Adoption studies in 1969 and 1970 showed respectively that 37 and 49% of confined hen pheasants *(Phasianus colchicus)* adopted and brooded introduced chicks, 38 and 26% intentionally killed chicks, and 18 and 11% neither adopted nor killed chicks. The hens were exposed to only sound stimulus or sight-and-sound stimuli from chicks 8 to 22 days just prior to adoption tests. There was no difference in rates of adoption or killing of chicks by hens subjected to the two treatments. Sublethal doses of dieldrin had no apparent effect on chick adoption under conditions of this study.

Davison, Kenneth L., and Jerry L. Sell. DIELDRIN AND *P,P'*-DDT EFFECTS ON SOME MICROSOMAL ENZYMES OF LIVER OF CHICKENS AND MALLARD DUCKS. *J. Agric. Food Chem.* 20(6): 1198-1205. Nov.-Dec. 1972. *WR 148: 9*

[N. Dak. State Univ., Fargo.] Abstract: Two experiments were conducted to determine effects of dieldrin and *p,p'*-DDT on some mixed-function oxidases of hepatic microsomes of White Leghorn chickens and mallard ducks. Aniline hydroxylase and aminopyrine *N*-demethylase activities in control birds were lower in ducks than in chickens, whereas cytochrone P_{450} concentration and estradiol metabolism in cicrosomes were about equal in both species. Dieldrin at levels of 10 and 20 µg/g of diet and DDT at 100 and 200 µg/g of diet increased cytochrome P_{450} concentration and estradiol metabolism in microsomes of both species, but they increased these parameters more in ducks than in chickens. DDT decreased aniline hydroxylase activity in chicken microsomes and increased aniline hydroxylase activity in duck microsomes, but did not affect aminopyrine *N*-demethylase activity of either species. Dieldrin did not affect aniline hydroxylase activity in chickens or ducks and did not affect aminopyrine *N*-demethylase activity in ducks, but it probably increased *N*-demethylase activity in chickens.

Flickinger, Edward L., and Dennis L. Meeker. PESTICIDE MORTALITY OF YOUNG WHITE-FACED IBIS IN TEXAS. *Bull. Environ. Contam. Toxicol.* 8(3): 165-168. Sept. 1972. *WR 148: 10*
[Bur. Sport Fisheries & Wildl., Victoria, Tex.] *"Plegadis chihi."*

Gregory, Wesley W., Jr., John K. Reed, and Lloyd G. Webb. BIOACCUMULATION OF ENDRIN FROM NATURAL FOOD SOURCES IN THE EASTERN BOBWHITE QUAIL, *COLINUS VIRGINIANUS VIRGINIANUS* L. *Proc. 26th Ann. Conf. SE Assoc. Game Fish Comm.* p. 156-164, 1 fig. 1972. *WR 148: 10*
[Univ. Ky., Lexington.]

Hald-Mortensen, P. [OILED BIRDS.] *Feltornithologen* 13: 186-188. 1971. [From Ibis 115(1), 1972. In Danish.] *WR 148: 10*
Includes a map summarizing the worst oiled areas and worst-affected species in Denmark.

Heath, R. G., J. W. Spann, J. F. Kreitzer, and C. Vance. EFFECTS OF POLYCHLORINATED BIPHENYLS ON BIRDS. *Proc. Int. Ornithol. Congr.* 15. p. 475-485, 1 fig. 1972. *WR 148: 10*
[Patuxent Wildl. Res. Cent., Laurel, Md.] Summary: Toxicities of six technical polychlorinated biphenyl (PCB) compounds (Aroclor 1232, 1242, 1248, 1254, 1260, and 1262) were studied on penned Mallards *Anas platyrhynchos*, Pheasants *Phasianus colchicus*, Bobwhite *Colinus virginianus*, and Japanese Quail *Coturnix coturnix* at the Patuxent Wildlife Research Center, Laurel, Maryland. LC_{50}'s expressed as ppm of PCB in dry feed, were determined for 2-week-old birds fed treated diets for 5 days. Aroclor toxicity, generally less than that of DDT, was found to be positively correlated with chlorine percentage (last two digits of Aroclor number). The joint toxicity of Aroclor 1254 and DDE on Japanese Quail was additive, not synergistic. Low dietary levels (25 and 50 ppm) of Aroclor 1254 produced no measurable reproductive effects in Mallards and Bobwhite.

Jackson, Crawford G., Jr., Charlie M. Holcomb, and Marguerite M. Jackson. STRONTIUM-90 IN THE EXOSKELETAL OSSICLES OF *DASYPUS NOVEMCINCTUS*. *J. Mammal.* 53 (4): 921-922. Nov. 1972. *WR 148: 10*
[Miss. State Coll. Women, Columbus.]

Jensen, S. THE PCB STORY. *Ambio* 1: 123-131. 1972. [From Ibis 115(1), 1972.] *WR 148: 10*
The first full account of the identification in a white-tailed eagle *Haliaetus albicilla* of new pollutants, polychlorinated biphenyls (PCBs), now known to be of world-wide distribution. The article is followed by another by G. Umeda on pages 132-134 describing the human symptoms of PCB poisoning which include skin pigmentation and eruptions, jaundice, nausea, vomiting, colic, diarrhoea, asthma, bronchitis, pneumonia, eye discharge, loss of hair, neurological symptoms, deformed babies, and death, though the numbers of the last two are left unclear.

Jewell, Samuel Rea. ORGANOCHLORINE PESTICIDE CONCENTRATIONS IN MULE DEER LIVING NEAR ORCHARDS IN WESTERN COLORADO. *Ph.D. thesis, Colo. State Univ.* 197 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(6), 1972.] *WR 148: 10*
"Odocoileus hemionus hemionus."

Koeman, J. H., editor. SIDE-EFFECTS OF PERSISTENT PESTICIDES AND OTHER CHEMICALS ON BIRDS AND MAMMALS IN THE NETHERLANDS. *Rept. Working Group Birds Mammals Committee TNO Res. Side-effects of Pesticides & Related Compounds.* p. 527-632. Oct. 1972. *WR 148: 10*
Includes the following papers: *Nature preservation and chemical pollution*, M. F. Mörzer Bruyns; *Residue levels of persistent chemicals in birds of prey and owls in the Netherlands in the period 1965-1971*, P. Fuchs; *Eggshell and population changes in the sparrow-hawk*, J. H. Koeman; *The status of some piscivorous birds in the Netherlands*, J. Rooth; *Chlorinated hydrocarbons attacked the eider population in the Netherlands*, C. Swennen; *The impact of persistent pollutants*

in piscivorous and molluscivorous birds, J. H. Koeman; *Persistent chemicals in marine mammals*, J. H. Koeman; *Bats pesticide conflicts*, S. Braaksma; *Pesticides and badgers*, P. G. Keij; *Incidental mortality of wild birds, resulting from abusive applications of pesticides*, C. G. v. Lieshout; *The toxicity of TMTD in Japanese quail*, H. Egberts; *Experimental studies with HCB in birds*, J. G. Vos; *Hepatic porphyria in birds and mammals*, J. J. T. W. A. Strik; *Limitations in the use of ensyme induction as a parameter for the assessment of environmental effects of pesticides*, P. Leeuwangh; *Analytical techniques in relation to the contamination of the fauna*, R. H. de Vos; *Pesticides and the fauna, a problem of policy*, A. F. H. Besemer; and *Chemical pollution and the fauna, its implications for industrial research*, H. G. S. van Raalte.

Koeman, J. H., H. D. Rijksen, M. Smies, B. K. Na'isa, and K. J. R. Maclennan. FAUNAL CHANGES IN A SWAMP HABITAT IN NIGERIA SPRAYED WITH INSECTICIDE TO EXTERMINATE GLOSSINA. *Neth. J. Zool.* 21(4): 434-463, illus. 1971. [From Biol. Abstr. 54(12), 1972.] *WR 148: 11*

[Inst. Vet. Pharmacol. Toxicol., Utrecht, Netherlands.] A general decline in the abundance of certain insectivorous birds 1 yr after a single application of dieldrin to a tsetse fly habitat was observed. For instance, the white-crowned robin chat disappeared completely from the area. It was shown that a substantial part of the dieldrin remaining on the bark of trees was converted to photodieldrin. Methods are recommended to minimize the secondary toxic effects of dieldrin.

Lambou, Victor W. REPORT ON THE PROBLEM OF MERCURY EMISSIONS INTO THE ENVIRONMENT OF THE UNITED STATES TO THE WORKING PARTY ON MERCURY, SECTOR GROUP ON UNINTENDED OCCURRENCE OF CHEMICALS IN THE ENVIRONMENT, OECD. *U.S. Environ. Prot. Agency.* 81 p. 27 Jan. 1972. *WR 148: 11*

Some topics covered are: production, uses and consumption of mercury; hazards of mercury; sources of mercury in the environment; environmental data from North America; movement of mercury in the environment; policies and standards; and actions taken.

McLane, M. Anne Ross, and Linda C. Hall. DDE THINS SCREECH OWL EGGSHELLS. *Bull. Environ. Contam. Toxicol.* 8(2): 65-68. 1972. *WR 148: 11*

[Patuxent Wildl. Res. Cent., Laurel, Md.] In 1971, the dosed birds laid eggs with shells 13 percent thinner than did birds fed untreated food both years ($P < 0.05$). Screech owls *(Otus asio)* seem to show greater shell thinning than the American kestrels.

Messick, John P. ORGANOCHLORINE RESIDUES IN WILD RING-NECKED PHEASANTS FROM SOUTHWESTERN IDAHO. *Bull. Environ. Contam. Toxicol.* 8(6): 356-360. Dec. 1972. *WR 148: 11*

[Idaho Coop. Wildl. Res. Unit, Moscow.] *"Phasianus colchicus."*

Naviaux, James L. AFTERCARE OF OIL-COVERED BIRDS. *Natl. Wildl. Health Foundation.* ii + 52 p., illus. Dec. 1972. Rev. ed. *WR 148: 11*

[Natl. Wildl. Health Foundation, 450 Boyd Rd., Pleasant Hill, Calif.] Contents: Introduction, Effects of oil contamination on birds, Check list of needs of affected birds, Cleaning of oiled birds, Husbandry methods and procedures, Common medical problems and treatments, Administration of medicine, Organization needed for major oil spills, and Suggested plan to care for oiled birds.

Parslow, J. L. F., D. J. Jefferies, and M. C. French. INGESTED POLLUTANTS IN PUFFINS AND THEIR EGGS. *Bird Study* 19(1): 18-33, [1 fig.]. Mar. 1972. *WR 148: 11*

[Monks Wood Exp. Sta., Abbots Ripton, Huntingdon, England.] "A small number of Puffins has been examined recently for organochlorine insecticide and PCB residues, also certain heavy metals, to see if their condition throws any light on the serious decline of this species. The results are inconclusive but the experience gained provides a useful basis for further toxicological research in this field."

Peakall, David B., and Jeffrey L. Lincer. METHYL MERCURY: ITS EFFECT ON EGGSHELL THICKNESS. *Bull. Environ. Contam. Toxicol.* 8(2): 89-90. Aug. 1972. *WR 148: 12*

[Cornell Univ., Ithaca, N.Y.] *"Falco sparverius* and *Streptopelia risoria."*

Porter, Richard D., and S. N. Wiemeyer. DDE AT LOW DIETARY LEVELS KILLS CAPTIVE AMERICAN KESTRELS. *Bull. Environ. Contam. Toxicol.* 8(4): 193-199. Oct. 1972. *WR 148: 12*

[Patuxent Wildl. Res. Cent., Laurel, Md.] Summary: Two of 14 male American kestrels died after 14 and 16 months on a diet containing 2.8 p.p.m., wet weight, *p,p'*-DDE. The brains of the two birds contained DDE residues of 213 and 301 p.p.m. compared with 14.9 p.p.m. (range, 4.47-26.6 p.p.m.) (wet weights) for 11 of the adult males which were sacrificed after 12 to 16 months on dosage. Autopsies of the two birds compared with autopsies of the sacrificed birds, revealed other characteristics typical of DDE poisoning. Neither bird, when autopsied, displayed characteristics which would suggest that they died of causes other than DDE poisoning.

Seabloom, Robert W., Gary L. Pearson, Lewis W. Oring, and James R. Reilly. AN INCIDENT OF FENTHION MOSQUITO CONTROL AND SUBSEQUENT AVIAN MORTALITY. *J. Wildl. Dis.* 9(1): 18-20. Jan. 1973. *WR 148: 12*

[Univ. N. Dak., Grand Forks.] Abstract: Mass mortality among migratory birds at Grand Forks, North Dakota, was attributed to a mosquito control operation employing the insecticide fenthion. The factors involved may have included the toxicity of the pesticide for birds, the method of application and coincidence with the peak of the spring warbler migration.

Sodergren, A., and S. Ulfstrand. DDT AND PCB RELOCATE WHEN CAGED ROBINS USE FAT RESERVES. *Ambio* 1: 36-40. 1972. [From Ibis 115(1), 1972.] *WR 148: 12*

Caged *Erithacus rubecula* were fed DDT, PCBs and a mixture of the two, and some were then starved. It was found that in starved birds the amount of both substances was proportionately increased in the brain and breast-muscle compared to the rest of the body, and that the amount of PCB retained in the body was increased when DDT compounds were also present, but not *vice versa.*

Stanton, Philip B. OPERATION RESCUE / CLEANING AND CARE OF OILED WATERFOWL. *Am. Petroleum Inst.* 32 p., illus. 1972. *WR 148: 12*

[Wildl. Rehabilitation Cent., Upton, Mass.] Contents: Physical effects of oil on birds, Preparing for a crisis, Endangered or rare species, Collecting oiled birds, Cleaning oiled birds, Providing an artificial environment, Releasing birds to the wild, and Promising areas for additional research.

Stein, Harold S., Jr. GOOD PRACTICE STATEMENT-DEVELOPING GUIDELINES FOR THE SAFE AND EFFICIENT USE OF PESTICIDES. *Proc. 5th Vertebr. Pest Conf.* p. 64-72. 1972. *WR 148: 12*

[Crane Pest Control, San Francisco, Calif.]

Stickel, Lucille F., and Leon I. Rhodes. THE THIN EGGSHELL PROBLEM. *Proc. Symp. Biol. Impact Pesticides Environ., Environ. Health Sci. Ser. no. 9, Oreg. State Univ.* p. 31-35, 2 figs. 1970. *WR 148: 12*

[Patuxent Wildl. Res. Cent., Laurel, Md.] Coturnix quail fed dietary dosages of *p,p'*-DDT produced fewer eggs than did untreated birds and the eggs had thinner shells. Hatchability was not significantly altered. Comparisons between these results and those obtained in other studies indicate significant species differances.--From abstr.

Swiggart, Richard C., Clifton J. Whitehead, Jr., August Curley, and Forest E. Kellogg. WILDLIFE KILL RESULTING FROM THE MISUSE OF ARSENIC ACID HERBICIDE. *Bull. Environ. Contam. Toxicol.* 8(2): 122-128. Aug. 1972. *WR 148: 12*

[Memphis-Shelby County Health Dep., Memphis, Tenn.] A loss of $5,071.55 is estimated as the sum of the cost to replace the deer and the amount spent in investigating the cause and extent of the kill of a single application on 600 acres.

WILDLIFE--POLLUTION--Continued

Vermeer, Kees, and Robert W. Risebrough. ADDITIONAL INFORMATION ON EGG SHELL THICKNESS IN RELATION TO DDE CONCENTRATIONS IN GREAT BLUE HERON EGGS. *Canadian Field-Nat.* 86(4): 384-385, 1 fig. Oct.-Dec. 1972. *WR 148: 13*
[Canadian Wildl. Serv., Edmonton, Alberta, Canada.]

Williamson, P., and P. R. Evans. LEAD: LEVELS IN ROADSIDE INVERTEBRATES AND SMALL MAMMALS. *Bull. Environ. Contam. Toxicol.* 8(5): 280-288, 1 fig. Nov. 1972. *WR 148: 13*
[Univ. Durham, Durham, England.] Summary: Concentrations of lead in the bodies of roadside invertebrates were generally below 50 p.p.m., but reached nearly 700 p.p.m. in woodlice (Isopoda). Lead levels in tissues of small mammals caught on roadside verges did not exceed 30 p.p.m., and were thus less than the levels found in many of their prey. No evidence was found of decreases in abundance of invertebrates with increasing levels of lead in soil and vegetation close to roads.

Wilson, Vivian J. OBSERVATIONS ON THE EFFECT OF DIELDRIN ON WILDLIFE DURING TSETSE FLY *GLOSSINA MORSITANS* CONTROL OPERATIONS IN EASTERN ZAMBIA. *Arnoldia* 5 (34): 1-12, [3 figs.]. 31 Aug. 1972. *WR 148: 13*
[Natl. Mus. Rhodesia, Bulawayo, Rhodesia.] Mortalities incidental to spraying activities included: 8 spp. of mammals, 24 spp. of birds, and 18 spp. of reptiles.

WILDLIFE--PARASITES & DISEASES

Arthur, Don R. HOST AND TICK RELATIONSHIPS: A REVIEW. *J. Wildl. Dis.* 9 (1): 74-84. Jan. 1973. *WR 148: 13*
[Rhodes Univ., Grahamstown, South Africa.]

Hammond, J. A. INFECTIONS WITH *FASCIOLA* SPP. IN WILDLIFE IN AFRICA. *Trop. Anim. Health Prod.* 4(1): 1-13. 1972. [From Biol. Abstr. 54(10), 1972. In English with French and Spanish summ.] *WR 148: 13*
[Univ. Edinburgh, Edinburgh, Scotland.]

Isoun, T. T., G. J. Losos, and B. O. Ikede. DISEASES OF ZOO ANIMALS IN NIGERIA. *J. Wildl. Dis.* 8(4): 335-339. Oct. 1972. *WR 148: 13*
[East African Trypanosomiasis Res. Organization, Tororo, Uganda.] Abstract: In a 4-year period, 77 zoo animals were brought to our diagnostic laboratory. Twenty-six of the 77 animals had diagnostic lesions. Of the diseases of primates, *Herpes simplex* encephalitis, pyrrolizidine alkaloid poisoning and osteodystrophia fibrosa were prominent. Hydatidosis, trypanosomiasis and myopathies were significant diseases in wild ruminants. Rabies was diagnosed in a lynx. The significance of these diseases to public health and epidemiology, is discussed.

Mair, N. S. YERSINIOSIS IN WILDLIFE AND ITS PUBLIC HEALTH IMPLICATIONS. *J. Wildl. Dis.* 9(1): 64-71, 1 fig. Jan. 1973. *WR 148: 13*
[Public Health Lab. Serv., Groby Rd., Leicester, England.] Yersiniosis is a disease of man and other animals due to *Yersinia pseudotuberculosis* (syn. *Pasteurella pseudotuberculosis*) and *Y. enterocolitica*.--From abstr.

Roth, H. H. NEEDS, PRIORITIES AND DEVELOPMENT OF WILDLIFE DISEASE RESEARCH IN RELATION TO AGRICULTURAL DEVELOPMENT IN AFRICA. *J. Wildl. Dis.* 8(4): 369-374. Oct. 1972. *WR 148: 13*
[Animal Production & Health Div., FAO, Rome, Italy.]

Traub, Robert, and Bennett L. Elisberg, editors. THE COLLOQUIM ON THE ZOOGEOGRAPHY AND ECOLOGY OF ECTOPARASITES, THEIR HOSTS AND RELATED INFECTIONS AT THE SECOND INTERNATIONAL CONGRESS OF PARASITOLOGY, WASHINGTON, D.C. (1970). *J. Med. Entomol.* 9(6): 583-606. 20 Dec. 1972. *WR 148: 13*
Includes relatively long abstracts of 32 papers.

WILDLIFE--PARASITES & DISEASES--Continued

Watt, J. C. ECTOPARASITIC INSECTS ON BIRDS AND MAMMALS OF THE KERMADEC ISLANDS. *Notornis* 18: 227-244. 1971. [From Auk 89(4), 1972.] *WR 148: 14*

WILDLIFE--OTHER MORTALITY FACTORS

Cociu, Mihail, and Maria Cociu. [NOXIOUSNESS OF DIFFERENT ECOLOGICAL FACTORS ON CAPTIVE WILD ANIMALS.] *Natura* (Bucharest) 23(6): 42-49. Nov.-Dec. 1971. [From J. Mammal. 53(3, suppl.), 1972. In Romanian.] *WR 148: 14*

WILDLIFE--POPULATIONS & FLUCTUATIONS

Kirikov, S. V. [POPULATIONS OF HIGHER VERTEBRATES AND DURATION OF THEIR EXISTENCE.] *Zool. Zh.* 50(1): 1761-1763. 1971. [From Biol. Abstr. 54(9), 1972. In Russian with English summ.] *WR 148: 14*
[Inst. Geogr., Acad. Sci. USSR, Moscow, USSR.]

Medway, Lord, and David R. Wells. DIVERSITY AND DENSITY OF BIRDS AND MAMMALS AT KUALA LOMPAT, PAHANG. *Malay Nat. J.* 24(3-4): 238-247. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 14*

WILDLIFE--TECHNIQUES

Johnson, Philip L. REMOTE SENSING IN ECOLOGY. *Univ. Ga. Press* (Athens). x + 244 p., illus., 6 x 9.5 in. 1969. Price $8.00. *WR 148: 14*
Contents: *Ecological potentials in spectral signature analysis*, R. M. Hoffer and C. J. Johannsen; *Leaf reflectance and image formation on color infrared film*, Edward B. Knipling; *Large-scale color photography reflects changes in a forest community during a spruce budworm epidemic*, R. C. Aldrich and R. C. Heller; *Ecological applications of multispectral color aerial photography*, Edward Yost and Sondra Wenderoth; *A multi-sensor study of plant communities at Horsefly Mountain, Oregon*, Rex M. Peterson, G. Ross Cochrane, Stanley A. Morain, and David S. Simonett; *Infrared measurement of plant and animal surface temperature and their interpretation*, David M. Gates; *Analysis of environmental and vegetative gradients in Yellowstone National Park from remote multispectral sensing*, Lee D. Miller and Charles F. Cooper; *Observations on intrepretation of vegetation from infrared imagery*, David K. Weaver, William E. Butler, and Charles E. Olson, Jr.; *Progress in large animal census by thermal mapping*, Dale R. McCullough, Charles E. Olson, Jr., and Leland M. Queal; *Portable radios in determination of ecological parameters of large vertebrates with reference to deer*, R. Larry Marchinton; *The significance of spectral changes in light scattered by the sea*, George L. Clarke; *Aerial photographic studies of shallow water benthic ecology*, Mahlon G. Kelley and Alfred Conrod; *Surface temperature patterns of Hudson Bay from aerial infrared surveys*, Wayne M. Wendland and Reid A. Bryson; and *How multispectral sensing can help the ecologist*, Fabian C. Polcyn, Norma A. Spansail, and William A. Malida.

Marten, Gerald G. THE REMOTE SENSING APPROACH TO CENSUSING. *Res. Popul. Ecol.* 14(1): 36-57, 11 figs. July 1972. In English with Japanese summ. *WR 148: 14*
[Petawawa For. Exp. Sta., Chalk River, Ontario, Canada.] A non-capture approach to censusing offers the possibility of (a) increasing sample sizes, thereby increasing precision, and (b) removing the bias so frequently associated with trapping. Sampling schemes analogous to removal and mark-recapture trapping were tested in the field, using electronic remote sensing as the means for sampling mice.--From summ.

WILDLIFE--MANAGEMENT & RESEARCH, GENERAL

Buffington, Charles D., and Robert H. Giles, Jr. METHODS FOR OBTAINING AND EVALUATING INPUTS FOR MANAGEMENT INFORMATION SYSTEMS FOR WILDLIFE AGENCIES. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 323-337, 2 figs. 1972. *WR 148: 15*
[Va. Coop. Wildl. Res. Unit, Blacksburg.]

Crawford, Michael. CONSERVATION BY UTILISATION. *Oryx* 11(6): 427-432. Sept. 1972. *WR 148: 15*
Discussion of wildlife ranching on the African continent.

Giles, Robert H., Jr., Michael Kaminsky, and John McLaughlin. WILDLIFE LAW ENFORCEMENT RESEARCH--THE CONTEXT AND THE NEEDS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 677-687. 1972. *WR 148: 15*
[Va. Coop. Wildl. Res. Unit, Blacksburg.]

Henderson, F. Robert. THE EXTENSION TRAPPER SYSTEM IN KANSAS. *Proc. 5th Vertebr. Pest Conf.* p. 104-107. 1972. *WR 148: 15*
[Kans. State Univ., Manhattan.]

Klessig, Lowell L., and James B. Hale. A PROFILE OF WISCONSIN HUNTERS. *Wis. Dep. Nat. Resour. Tech. Bull.* no. 60. [26 p.] 1972. *WR 148: 15*
A seven-page questionnaire survey was mailed to a sample of 1,500 Wisconsin resident hunters. Sixty-nine percent of the questionnaires were returned. Responses were analyzed according to the type of game hunted: big game, small mammals, predators, upland birds and waterfowl. Findings included such information as: most hunters hunted in groups, most were raised in rural communities, most hunted primarily to enjoy nature, and most supported more arrests and larger fines.

Kruckenberg, Larry. GAME MANAGEMENT IN NORTH DAKOTA--A SUMMATION AND REVIEW: PART 1--HISTORY OF NORTH DAKOTA WILDLIFE (1862-1938). *N. Dak. Outdoors* 35(8): 9-16, illus. Feb. 1973. *WR 148: 15*

Miller, Harvey W. REVIEW OF CHANGING WILDLIFE HABITAT AND REQUIREMENTS FOR MAINTAINING KEY SPECIES. *N. Dak. Outdoors* 35(5): 2-9, illus. Nov. 1972. *WR 148: 15*
[Northern Prairie Res. Cent., Jamestown, N. Dak.] The trends in land uses as they change wildlife habitat and the life requirements of key wildlife species are reviewed.

Stork, Donald F. RELATED LAWS ON EXOTIC AND NATIVE WILD ANIMALS. *Proc. 5th Vertebr. Pest Conf.* p. 73-81. 1972. *WR 148: 15*
[Calif. Dep. Fish & Game, Sacramento.]

WILDLIFE--HUNTING AREAS & PROBLEMS

Elliott, Charles R., and Raymond L. Linder. USE OF STATE AND PRIVATE LANDS BY PHEASANTS AND WATERFOWL IN SOUTH DAKOTA. *Am. Midl. Nat.* 88(2): 257-261. Oct. 1972. *WR 148: 15*
[Bur. Sport Fish. & Wildl., Devils Lake, N. Dak.] Abstract: Four 32.4 ha and four 64.7 ha tracts of state land were paired with private land that was comparable to the state land at the time of purchase. More pheasants and ducks were produced on state land than on private land. The use of state land by pheasants was significantly greater year round. Undisturbed nesting cover on the state areas was important for both pheasant and duck production and was available all year. The habitat on the state areas used by pheasants and ducks is undoubtedly used by other species of birds and mammals as well.

WILDLIFE--PREDATION, CROP DAMAGE, CONTROL

Choate, Jerry R. NOTES ON GEOGRAPHIC DISTRIBUTION AND HABITATS OF MAMMALS EATEN BY OWLS IN SOUTHERN NEW ENGLAND. *Trans. Kans. Acad. Sci.* 74(2): 212-216. 7 Apr. 1972. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 16*

Cummings, Maynard W. WHAT'S AHEAD IN PREDATOR MANAGEMENT. *Proc. 5th Vertebr. Pest Conf.* p. 192-194. 1972. *WR 148: 16*
[Univ. Calif., Davis.]

Fitzwater, William D. BARRIER FENCING IN WILDLIFE MANAGEMENT. *Proc. 5th Vertebr. Pest Conf.* p. 49-55, illus. 1972. *WR 148: 16*
[Environ. Pollution Agency, Washington, D.C.] Review paper.

Ginzburg, L. R., Y. I. Gol'dman, and A. I. Railkin. [MATHEMATICAL MODEL OF INTERACTION BETWEEN TWO POPULATIONS: I. PREDATOR-PREY.] *Zh. Obshch. Biol.* 32(6): 724-730, illus. 1971. [From Biol. Abstr. 54(9), 1972. In Russian with English summ.] *WR 148: 16*
[Agro-phys. Inst., Leningrad, USSR.]

Harden, Warren D. PREDATION BY HAWKS ON BATS AT VICKERY BAT CAVE. *Bull. Okla. Ornithol. Soc.* 5(1): 4-5. Mar. 1972. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 16*

Kaufman, Donald Wayne. EFFECTS OF PELAGE AND SUBSTRATE COLORATION ON PREDATION OF MICE BY OWLS. *Ph.D. thesis, Univ. Ga.* 98 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973.] *WR 148: 16*
Barn owls and screech owls captured more conspicuous than matching prey under most experimental conditions. Combined captures by both species of owls demonstrated selection against the conspicuous prey (significantly more conspicuous than matching prey captured) in seven of ten experiments with different pelage and background conditions.

Ochs, Paul. EFFICACY TESTING OF VERTEBRATE PEST CONTROL AGENTS. *Proc. 5th Vertebr. Pest Conf.* p. 138-141. 1972. *WR 148: 16*
[Environ. Pollution Agency, Washington, D.C.]

Ogle, Thomas F. PREDATOR-PREY RELATIONSHIPS BETWEEN COYOTES AND WHITE-TAILED DEER. *Northwest Sci.* 45(4): 213-218. Nov. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 16*

Peters, J. Andrew. VERTEBRATE PESTS IN NEW ZEALAND; RESEARCH AND CONTROL. *Proc. 5th Vertebr. Pest Conf.* p. 101-103. 1972. *WR 148: 16*
[Forest & Range Exp. Sta., Rangiora, New Zealand.]

WILDLIFE--REPORTS OF ORGANIZATIONS & REPORTS OF HARVESTS

North Dakota Game & Fish Department. NORTH DAKOTA OUTDOORS / 1972 ANNUAL REPORT ISSUE. *N. Dak. Outdoors* 35(7). 25 p., illus. Jan. 1973. *WR 148: 16*
Reports by the Game Management Division are on pages 7-18.

Vermont Fish & Game Department. VERMONT'S GAME ANNUAL. *Vt. Fish & Game Dep., Agency Environ. Conserv. Bull.* no. 72-1. 40 p., illus. 1972. *WR 148: 16*
"This booklet is intended to inform Vermont sportsmen of results of the 1971 game seasons, and to acquaint them with other projects conducted by the Game Section of the Research and Management Division." Includes information on deer, bear, furbearers, small game, wild turkey, waterfowl, and habitat control.

WETLANDS & WILDLIFE

Chabreck, Robert H. PONDS AND LAKES OF THE LOUISIANA COASTAL MARSHES AND THEIR VALUE TO FISH AND WILDLIFE. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 206-215, 1 fig. 1972. *WR 148: 17*
[La. Coop. Wildl. Res. Unit, Baton Rouge.] Abstract: A survey of the Louisiana Coastal Area disclosed that ponds and lakes made up one-fourth of the area. The ponds and lakes ranged from less than 0.01 acre to over 400,000 acres and numbered 5.3 million. The study shows that the fresh, brackish and intermediate marshes were of high value to waterfowl because of high pond density and plant growth. Ponds and lakes in the saline marshes were of low value to most waterfowl, but of extreme importance to marine organisms.

Gauntlett, F. M. DURGAPUR BARRAGE AS A WATERBIRD HABITAT. *J. Bombay Nat. Hist. Soc.* 68(3): 619-632, illus. 1971. [From Biol. Abstr. 54(10), 1972.] *WR 148: 17*

Hoelzinger, Jochen, Gerhard Knoetzsch, Siegfried Schuster, and Karl Westermann. WETLANDS (FEUCHTGEBIETE) IN BADEN-WUERTTEMBERG MIT INTERNATIONALER UND NATIONALER BEDEUTUNG FUER WASSERVOEGEL. [WETLANDS IN BADEN-WUERTTEMBERG WITH INTERNATIONAL AND NATIONAL IMPORTANCE FOR WATER BIRDS.] *Ans. Ornithol. Ges. Bayern* 11(1): 70-110, illus. 1972. [From Biol. Abstr. 54(8), 1972. In German.] *WR 148: 17*
[Silcherweg 22, Oberelchingen, Germany.] A total of 61 wetlands in Baden-Wuerttemberg (West Germany) are listed with information on size, biotope and numbers and species of swimming birds.

Palmisano, A. W. THE EFFECT OF SALINITY ON THE GERMINATION AND GROWTH OF PLANTS IMPORTANT TO WILDLIFE IN THE GULF COAST MARSHES. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 215-223, 2 figs. 1972. *WR 148: 17*
[La. Wild Life & Fisheries Comm., New Orleans.]

FORESTLAND--FORESTRY & ECOLOGY

Rucner, Dragutin. [CONTRIBUTION TO THE KNOWLEDGE OF THE FAUNA OF SOME FOREST ASSOCIATIONS IN CROATIA.] *Larus* 23: 129-203, illus. 1969 (1971). [From Biol. Abstr. 54(7), 1972. In Serbo-Croatian with German summ.] *WR 148: 17*
[Inst. Biol., Zagreb, Yugoslavia.] The fauna occurring in 17 forest associations in Croatia from 1961-1965 was studied.

FORESTLAND--MANAGEMENT FOR & DAMAGE BY WILDLIFE

Bobek, Bogusław, and Ryszard Dzieciołowski. METHOD OF BROWSE ESTIMATION IN DIFFERENT TYPES OF FORESTS. *Acta Theriol.* 17(14): 171-186, 1 fig. Aug. 1972. In English with Polish summ. *WR 148: 17*
[Jagiellonian Univ., Kraków, Poland.]

Heidmann, L. J. AN INITIAL ASSESSMENT OF MAMMAL DAMAGE IN THE FORESTS OF THE SOUTHWEST. *U.S. Dep. Agric. Res. Note RM-219.* 7 p., 8 figs. 1972. *WR 148: 17*
Abstract: Mammal damage is a serious problem in some forests of the Southwest. All size classes of trees are affected, but the problem is most serious in plantations and stands of young trees. In addition, mammals are a major factor in preventing the establishment of regeneration on one-half million acres of non-stocked forest land in the Southwest.

Pengelly, W. L. CLEARCUTTING: DETRIMENTAL ASPECTS FOR WILDLIFE RESOURCES. *J. Soil & Water Conserv.* 27(6): 255-258, illus. Nov.-Dec. 1972. *WR 148: 17*
[Univ. Mont., Missoula.]

Resler, Rexford A. CLEARCUTTING: BENEFICIAL ASPECTS FOR WILDLIFE RESOURCES. *J. Soil & Water Conserv.* 27(6): 250-254, illus. Nov.-Dec. 1972. *WR 148: 17*
[U.S. Dep. Agric., Washington, D.C.]

MAMMALS--GENERAL

Dagg, Anne Innis. RESEARCH ON CANADIAN MAMMALS. *Canadian Field Nat.* 86(3): 217-221. July-Sept. 1972. *WR 148: 18*

[Roy. Ontario Mus., Toronto, Ontario, Canada.] Fourteen well-known refereed journals or series over the past 40 years were searched for articles on Canadian mammals. Research fields of increasing importance include pollution, populations, techniques, ecology and habitat, behavior, reproduction and anatomy and physiology.--From abstr.

Fooden, Jack. BREAKUP OF PANGAEA AND ISOLATION OF RELICT MAMMALS IN AUSTRALIA, SOUTH AMERICA AND MADAGASCAR. *Science* 175(4024): 894-898, 1 fig. 25 Feb. 1972. *WR 148: 18*

[Field Mus. Nat. Hist., Chicago, Ill.]

Gambarjan, P. P. [THE RUNNING OF MAMMALS / ADAPTATIONAL FEATURES OF LOCOMOTIONAL ORGANS.] *Izdat. "Nauka" Leningrad. Otdel.* 424 p., 60 figs., 8 pls. 1972. In Russian. Price 4 Rubles 71 Kopecks. *WR 148: 18*

Contents: Materials and methods; Gaits of mammals; Biomechanics of ground locomotion; Adaptation to running in hoofed-animals; Adaptation to running in proboscidians; Adaptation to running in predators; Adaptation to running in lagomorphs; Adaptation to running in rodents and kangaroos; and Patterns and modes of running in mammals.

Gray, A. P. MAMMALIAN HYBRIDS. *Commonwealth Agric. Bureaux* (Slough, England). x + 262 p. + 1 pl., 6.75 x 9.5 in. 1971. Price £4 or $18.40. *WR 148: 18*

A revised edition of Annie P. Gray's summation of reported mammalian hybrids published in 1954 [Tech. Communication no. 10]. This new edition contains nearly twice as many entries and an enlarged bibliography of more than 1200 titles. The hybrids are grouped within families, and arranged alphabetically under the scientific names of the species involved. Information on each hybrid is given under the parental species occurring first in the list. A cross-reference is provided under the other parent. In some cases the direction of the cross and the degree of fertility of the hybrids are indicated. Records of unsuccessful attempts at hybridization are also included. Vernacular as well as scientific names are included in the index of species.

Hyvärinen, Heikki, and Kalevi Heikura. EFFECTS OF AGE AND SEASONAL RHYTHM ON THE GROWTH PATTERNS OF SOME SMALL MAMMALS IN FINLAND AND IN KIRKENES, NORWAY. *J. Zool.* (London) 165(4): 545-556. Dec. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 18*

Kirk, Gustav. [MAMMAL PROTECTION IN EUROPE.] *Przegl. Zool.* 15(2): 185-188. 1971. [From J. Mammal. 53(3, suppl.), 1972. In Polish with English summ.] *WR 148: 18*

Kubantsev, B. S. [SEX RATIO IN POPULATIONS OF MAMMALS.] *Zh. Obshch. Biol.* 33(2): 196-204. 1972. [From Biol. Abstr. 54(12), 1972. In Russian with English summ.] *WR 148: 18*

[Volgograd Pedagog. Inst., Volgograd, USSR.] Conclusions are drawn on evolutionary and ecological condition of sex ratio dynamics in mammals.

Paradiso, John L., and Robert D. Fisher. MAMMALS IMPORTED INTO THE UNITED STATES IN 1970. *U.S. Fish Wildl. Serv. Spec. Sci. Rep. Wildl.* no. 161. ii + 62 p. 1972. For sale at $1.00 by Supt. Documents, GPO, Washington, D.C. *WR 148: 18*

[Bur. Sport Fish. & Wildl., Bird & Mammal Lab., Washington, D.C.] Abstract: The numbers of mammals reported on Form 3-177 for importation into the United States in 1970 are listed by species and by country of origin. The major groups of mammals reported for importation are compared with lists of rare and endangered species, lists of mammals whose importation is restricted, and lists of mammals imported in 1968 and 1969.

Vaughan, Terry A. MAMMALOGY. *W. B. Saunders Co.* (Philadelphia, London, Toronto). viii + 462 p., illus., 6.5 x 9.75 in. 1972. Price $14.50. *WR 148: 19*

"This text is intended for use in upper division college or university courses on mammals to be taken by students who have a basic background in zoology. The approach has been to discuss structure and function together whenever possible, for students are far more interested in the functioning mammal than in lists of diagnostic morphological characters." Contents: Introduction; Mammalian characteristics; Mammalian origins; Classification of mammals; Non-eutherian mammals: monotremes and marsupials; Insectivores, dermopterans, and bats; Order primates; Edentates, scaly anteaters, the aardvark; Order lagomorpha; Order rodentia; Cetaceans: whales, porpoises, dolphins; Carnivores; Subungulates: elephants, hyraxes, sirenians; Ungulates; Ecology; Zoogeography; Behavior; Reproduction; Metabolism and temperature regulation in mammals; Water regulation in mammals; Acoustical orientation and specializations of the ear; and Comments on mammals and man.

Whittow, G. Causey, editor. COMPARATIVE PHYSIOLOGY OF THERMOREGULATION. VOLUME II. MAMMALS. *Academic Press* (New York and London). xi + 410 p., illus., 6.25 x 9.25 in. 1971. Price $21.00. *WR 148: 19*

Contents: *Rodents*, J. S. Hart; *Carnivores*, Thomas Adams; *Ungulates*, G. Causey Whittow; *Primates*, R. D. Myers; and *Man*, James D. Hardy, J. A. J. Stolwijk, and A. Pharo Gagge.

MAMMALS--TECHNIQUES

Kashkarov, D. Y., and A. Zakirov. [METHOD OF COUNTING PREDATORS AT NIGHT IN THE DESERT REGIONS OF UZBEKISTAN.] *Ekologiya* 2(3): 100-101, illus. 1971. [From Biol. Abstr. 54(7), 1972. In Russian.] *WR 148: 19*

[Inst. Zool. Parasitol., Acad. Sci. Uzb. SSR, Tashkent, USSR.] A method is given for counting predators at night from an automobile and a formula is presented for determining the absolute number of animals in a 10 km^2 region. The method is exemplified by counts of *Canis vulpes, Vulpes corsac,* and *Felis libyca* in the deserts of Uzbekistan.

Marten, Gerald G. CENSUSING MOUSE POPULATIONS BY MEANS OF TRACKING. *Ecology* 53(5): 859-867, 4 figs. Late Summer 1972. *WR 148: 19*

[Univ. Calif., Berkeley.] Abstract: A new approach based on mark-and-sample tracking is presented that may substantially reduce errors in censusing small mammals. A test is included to check the underlying assumption of equal tracking from marked and unmarked mice. A procedure for applying the tracking approach to estimating births and deaths between samples is also presented. The tracking approach was demonstrated on a population of *Peromyscus maniculatus*. The number of tracks left nightly by males was significantly greater than by females. However, the tracking rate was about the same each night for all individuals of the same sex, even though tracking fluctuated from night to night. The test revealed no strong difference in the tracking rates of marked and unmarked mice. It is concluded that population estimates based on tracking can be highly precise and far superior to estimates based on trapping alone.--Courtesy/ Paul A. Stewart.

Osgood, David W., and Peter D. Weigl. MONITORING ACTIVITY OF SMALL MAMMALS BY TEMPERATURE-TELEMETRY. *Ecology* 53(4): 738-740, 2 figs. Summer 1972. *WR 148: 19*

[Butler Univ., Indianapolis, Ind.] Abstract: A temperature-sensitive radio transmitter for small mammals is described. Its range was 200 meters, and it provided valuable information about movements of small mammals in and out of nests. The only limitation is that the nest or burrow temperature must differ from that of ambient air by at least 3° C.--Courtesy/ Paul A. Stewart.

MAMMALS--TECHNIQUES--Continued

Thiel, Vern, Douglas S. Barnes, and N. Mrosovsky. A SIMPLE METHOD FOR RECORDING ACTIVITY PATTERNS OF SMALL ANIMALS. *Physiol. Behav.* 8(3): 549-551, illus. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 20*
[Univ. Toronto, Toronto, Ontario, Canada.] A simple method for recording activity patterns of small animals (agoutis) is described. The system depends on an inexpensive phonograph type crystal pick-up to sense vibrations from a cage resting on foam rubber. A small metal attachment enables the device to be transferred readily from one type of cage to another.

Torcea, Stefan. UN NOUVEAU TYPE DE TRAPPE POUR LES MAMMIFERES FOUISSEURS. [A NEW TYPE OF TRAP FOR BURROWING MAMMALS.] *Trav. Mus. Hist. Nat. Grigore Antipa* 11. p. 449-452, illus. 1971. [From Biol. Abstr. 54(12), 1972. In French with Romanian summ.] *WR 148: 20*

Wiener, James G., and Michael H. Smith. RELATIVE EFFICIENCIES OF FOUR SMALL MAMMAL TRAPS. *J. Mammal.* 53(4): 868-873. Nov. 1972. *WR 148: 20*
[Savannah River Ecol. Lab., Drawer E, Aiken, S.C.] Relative efficiencies of the Museum Special snap trap, the small Sherman live trap, the Victor-mouse snap trap and the Victor-rat snap trap were determined.

Williamson, Michael J., and Michael R. Pelton. NEW DESIGN FOR A LARGE PORTABLE MAMMAL TRAP. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 315-322, 6 figs. 1972. *WR 148: 20*
[Univ. Tenn., Knoxville.]

MAMMALS--FAUNAS & MANUALS

Amerson, A. Binion, Jr. THE NATURAL HISTORY OF FRENCH FRIGATE SHOALS, NORTHWESTERN HAWAIIAN ISLANDS. *Atoll Res. Bull.* 150: 1-383. Dec. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 20*
Pages 302-318 on mammals.

Asselberg, R. H. DE VERSPREIDING VAN DE KLEINE ZOOGDIEREN IN BELGIE AAN DE HAND VAN BRAAKBALLENANALYSE. [THE DISTRIBUTION OF SMALL MAMMALS IN BELGIUM ON THE BASIS OF OWL PELLETS.] *Bull. Inst. Roy. Sci. Nat. Belg.* 47(5): 1-60, illus. 1971. [From Biol. Abstr. 54(12), 1972. In Dutch with French and English summ.] *WR 148: 20*

Bárta, Z., and P. Tyrner. [SMALL MAMMALS FROM THE SUMNÝ DUL VALLEY IN THE KRUSNÉ HORY MTS.] *Cas. Nar. Mus. Praha* 140(1-2): 39-53. 1971. [From J. Mammal. 53(3, suppl.), 1972. In Czech with German summ.] *WR 148: 20*

Gardner, Alfred L., and James L. Patton. NEW SPECIES OF *PHILANDER* (MARSUPIALIA: DIDELPHIDAE) AND *MIMON* (CHIROPTERA: PHYLLOSTOMIDAE) FROM PERU. *Occas. Pap. Mus. Zool. La. State Univ.* no. 43. p. 1-12, 3 figs. 13 Sept. 1972. *WR 148: 20*
[La. State Univ., Baton Rouge.]

Genoways, Hugh H., and J. Knox Jones, Jr. MAMMALS FROM SOUTHWESTERN NORTH DAKOTA. *Occas. Pap. Mus. Tex. Tech Univ.* no. 6. 36 p., 1 fig. 3 Nov. 1972. *WR 148: 20*
Annotated list of 39 spp.

Genoways, Hugh H., and J. Knox Jones, Jr. NOTES ON SOME MAMMALS FROM JALISCO, MEXICO. *Occas. Pap. Mus. Tex. Tech Univ.* no. 9. 22 p., 1 fig. 26 Jan. 1973. *WR 148: 20*
Distribution patterns of 18 taxa.

Jenkins, D. V. ANIMAL LIFE OF KINABALU NATIONAL PARK. *Malay Nat. J.* 24(3-4): 177-183. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 20*

MAMMALS--FAUNAS & MANUALS--Continued

Jones, J. Knox, Jr., Dilford C. Carter, and Hugh H. Genoways. CHECKLIST OF NORTH AMERICAN MAMMALS NORTH OF MEXICO. *Occas. Pap. Mus. Tex. Tech Univ.* no. 12. 14 p. 2 Feb. 1973. *WR 148: 21*

Khan, M. THE DISTRIBUTION OF LARGE ANIMALS IN TAMAN NEGARA. *Malay Nat. J.* 24(3-4): 125-131. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 21*

Krishnan, M. AN ECOLOGICAL SURVEY OF THE LARGER MAMMALS OF PENINSULAR INDIA: III. *J. Bombay Nat. Hist. Soc.* 68(3): 503-555, illus. 1971. [From Biol. Abstr. 54(10), 1972.] *WR 148: 21*
The report is documented by 242 photographs selected from several thousands taken over 12 years, from 1959 to Oct. 1970, and is largely supported by the field notes.

Popescu, Alexandrina, and Profira Barbu. CONTRIBUTIONS A L'ETUDE DE LA FAUNE DES PETITS MAMMIFERES DE LA REGION DES PORTES-DE-FER. [CONTRIBUTIONS TO THE STUDY OF THE SMALL MAMMAL FAUNA OF PORTES-DE-FER REGION.] *An. Univ. Bucur. Biol. Anim.* 20. p. 13-24, illus. 1971. [From Biol. Abstr. 54(9), 1972. In Romanian.] *WR 148: 21*
[Univ. Bucharest, Bucharest, Romania.]

Tiwari, K. K., R. K. Ghose, and S. Chakraborty. NOTES ON THE COLLECTION OF SMALL MAMMALS FROM WESTERN GHATS WITH REMARKS ON THE STATUS OF *RATTUS RUFESCENS* (GRAY) AND *BANDICOTA INDICA MALABARICA* (SHAW). *J. Bombay Nat. Hist. Soc.* 68(2): 378-384, illus. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 21*
[Zool. Surv., Calcutta, West Bengal, India.]

Vericad, Juan R. [NEW LOCALITIES OF MAMMALS IN THE PYRENEES.] *Bol. Real Soc. Esp. Hist. Nat. Secc. Biol.* 66: 39-43. 23 Nov. 1968. [From J. Mammal. 53(3, suppl.), 1972. In Spanish with English summ.] *WR 148: 21*

MAMMALS--POPULATIONS, HOME RANGES, COMMUNITIES

Armstrong, David M., Benjamin H. Banta, and Edward J. Pokropus. ALTITUDINAL DISTRIBUTION OF SMALL MAMMALS ALONG A CROSS-SECTIONAL TRANSECT THROUGH THE ARKANSAS RIVER WATERSHED, COLORADO. *Southwestern Nat.* 17(4): 315-316, 3 figs. 10 Jan. 1973. *WR 148: 21*
[Univ. Colo., Boulder.] Abstract: Pitfall faunal sampling along north-south transects through the Arkansas River watershed in the vicinity of Canon City, Colorado, was conducted from 1963 to 1965. A total of 721 specimens of insectivores and rodents was obtained, representing 22 species. The altitudinal distribution of these species is detailed and possible factors underlying the ecological distinctiveness of the area are suggested.

Clark, Colin W. THE DYNAMICS OF COMMERCIALLY EXPLOITED NATURAL ANIMAL POPULATIONS. *Math. Biosci.* 13(1/2): 149-164. 1972. [From Biol. Abstr. 54(7), 1972.] *WR 148: 21*
[N. Mex. State Univ., Las Cruces.]

Eldridge, Joyce. SOME OBSERVATIONS ON THE DISPERSION OF SMALL MAMMALS IN HEDGEROWS. *J. Zool.* (London) 165(4): 530-534. Dec. 1971. [From J. Mammal. 53 (3, suppl.), 1972.] *WR 148: 21*

Hendrichs, Hubert. BEOBACHTUNGEN UND UNTERSUCHUNGEN ZUR OEKOLOGIE UND ETHOLOGIE, INSBESONDERE ZUR SOZIALEN ORGANISATION OSTAFRIKANISCHER SAEUGETIERE. [OBSERVATIONS AND INVESTIGATIONS INTO THE ECOLOGY, ETHOLOGY, AND PRIMARILY, THE SOCIAL ORGANIZATION OF EAST AFRICAN MAMMALS.] *Z. Tierpsychol.* 30(2): 146-189, illus. 1972. [From Biol. Abstr. 54(12), 1972. In German with English summ.] *WR 148: 21*
[Marktst. 3, Bad Muenstereifel, Germany.]

Krull, John N., and William S. Bryant. ECOLOGICAL DISTRIBUTION OF SMALL MAMMALS ON THE PINE HILLS FIELD STATION AND ENVIRONS IN SOUTHWESTERN ILLINOIS. *Nat. Hist. Misc.* no. 189. 8 p. 15 June 1972. *WR 148: 22*
[Central Mich. Univ., Mt. Pleasant.]

McPherson, A. Bradley, and John N. Krull. ISLAND POPULATIONS OF SMALL MAMMALS AND THEIR AFFINITIES WITH VEGETATION TYPE, ISLAND SIZE AND DISTANCE FROM MAINLAND. *Am. Midl. Nat.* 88(2): 384-392, 1 fig. Oct. 1972. *WR 148: 22*
[Centenary Coll., Shreveport, La.] Abstract: Small mammals were snap-trapped on 26 islands of Crab Orchard Lake and associated mainland areas in southern Illinois. Vegetation type varied from old-field to rather dense, second-growth forest. *Microtus ochrogaster* was found more frequently on the islands than *Peromyscus leucopus* regardless of the type. On those islands supporting *P. leucopus* a land connection occurs yearly during lake drawdown and is the probable route of invasion. Forested islands close to the mainland often support *M. ochrogaster* even though connected to the mainland by ice in winter. To maintain a population of small mammals an island probably needs to be at least 10,000 ft^2. Once this size is reached, in general, the larger the island the greater the diversity of small mammals.

Smith, Peter Belmont. SEASONAL DISTRIBUTION OF SEVERAL SMALL MAMMAL SPECIES ON CAMEL'S HUMP MOUNTAIN, VERMONT WITH SPECIAL REGARD TO CLIMATIC, EDAPHIC, AND VEGETATIVE INFLUENCES. *Ph.D. thesis, Univ. Vt.* 201 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 22*

Solomonov, N. G. [DIRECTION OF CHANGE OF THE AVERAGE SIZE OF THE LITTERS OF SOME MAMMALS OF YAKUTIA.] *Ekologiya* 1(5): 89-92. 1970. [From Biol. Abstr. 54 (7), 1972. In Russian.] *WR 148: 22*
[Yakutsk State Univ., Yakutsk, USSR.] The variability of the fecundity of the varying hare and certain species of rodents of Yakutia was studied.

Stout, Jack, Allen L. Farris, and Vernon L. Wright. SMALL MAMMAL POPULATIONS OF AN AREA IN NORTHERN IDAHO SEVERELY BURNED IN 1967. *Northwest Sci.* 54(4): 219-226. Nov. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 22*

MAMMALS--PARASITES & DISEASES

Davis, John W., Lars H. Karstad, and Daniel O. Trainer, editors. INFECTIOUS DISEASES OF WILD MAMMALS. *Iowa State Univ. Press* (Ames, Iowa). xi + 421 p., illus., 7 x 10 in. 1970. Price $18.00. *WR 148: 22*
Contents: *Rabies*, R. Keith Sikes, Sr.; *Rinderpest*, Gordon Ramsay Scott; *Distemper*, Joan Budd; *Epizootic hemorrhagic disease*, Daniel O. Trainer and Lars H. Karstad; *Bluetongue*, Daniel O. Trainer; *Arboviruses*, Lars H. Karstad; *Foot-and-mouth disease*, A. L. Fletch; *Mink virus enteritis*, Dieter Burger and John R. Gorham; *Feline panleukopenia*, James L. Bittle; *Pseudorabies*, Milton Friend and Daniel O. Trainer; *Virus B infection*, Frances M. Love and William G. Stone; *Myxomatosis and fibromatosis of rabbits, hares, and squirrels*, Thomas M. Yuill; *Malignant catarrhal fever*, Lars H. Karstad; *Infectious canine hepatitis*, Victor J. Cabasso; *Aleutian disease of mink*, John R. Gorham, J. B. Henson, George A. Padgett, and Travis C. McGuire; *Lymphocytic choriomeningitis*, John E. Hotchin and Lois M. Benson; *Miscellaneous viral diseases: mucosal disease, infectious bovine rhinotracheitis, inclusion body hepatitis of nutria, hog cholera, and contagious ecthyma*, Lars H. Karstad; *Tularemia*, James R. Reilly; *Sylvatic (Wild rodent) plague*, Peter F. Olsen; *Pasteurellosis*, Merton N. Rosen; *Pseudotuberculosis*, Theodore F. Wetzler; *Tuberculosis*, William G. Winkler and N. B. Gale; *Brucellosis*, J. Franklin Witter and David C. O'Meara; *Anthrax*, L. P. E. Choquette; *Erysipelas*, Richard D. Shuman; *Listeriosis*, Warren C. Eveland; *Staphylococcosis in rabbits and hares*, John W. Davis; *Necrobacillosis*, Merton N. Rosen; *Leptospirosis*, Earl E. Roth; *Epizootic chlamydiosis of muskrats and snowshoe hares*, Josip Spalatin and J. O. Iversen; *Errington's disease*, Lars H. Karstad; *Histoplasmosis*, Vance L. Sanger; *Coccidioidomycosis*, John W. Davis; *Adiaspiromycosis*,

William L. Jellison; *Rocky Mountain spotted fever*, J. Frederick Bell; *Salmon poisoning disease*, Stuart E. Knapp and Raymond E. Millemann; *Q (Query) fever*, J. Frederick Bell; *Tick-borne (Pasture) fever and rickettsialpox*, J. Frederick Bell; *Anaplasmosis*, Duane L. Howe; *Eperythrozoonosis*, Duane L. Howe; *Miscellaneous bacterial diseases: vibriosis, actinomycosis, blackleg, and malignant edema*, Duane L. Howe; *Skin tumors of the cervidae*, L. D. Fay; and *Effects of toxic substances*, Rolf Hartung.

Davis, John W., and Roy C. Anderson, editors. PARASITIC DISEASES OF WILD MAMMALS. *Iowa State Univ. Press* (Ames, Iowa). x + 364 p., illus., 7 x 10 in. 1971. Price $15.00. *WR 148: 23*

Contents: *Mites and pentastomes*, Gordon K. Sweatman; *Fleas and lice*, E. C. Turner, Jr.; *Lungworms*, Roy C. Anderson; *Trichinosis*, William J. Zimmermann; *Acanthocephala*, Dominic L. DeGiusti; *Bighorn sheep lungworm-pneumonia complex*, Donald J. Forrester; *Cyclophyllidean tapeworms of wild carnivora*, Paul D. Leiby and William G. Dyer; *Trematodes*, John W. Davis and Keith G. Libke; *Dioctophyma renale*, Audrey Fyvie; *Elaeophorosis*, Charles P. Hibler and Jerry L. Adcock; *Myiasis*, Kenneth J. Capelle; *Trypanosomiasis*, Eric A. Wells and W. H. Russel Lumsden; *Toxoplasmosis*, Vance L. Sanger; *Toxoplasmosis in microtine rodents*, William L. Jellison; *Babesiosis*, Duane L. Howe; *Theileriosis*, Duane L. Howe; and *Besnoitiosis*, William L. Jellison.

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[259 Alpine, Hot Springs, Ark.] Abstract: Sera derived from skunks, raccoons, opossums and woodchucks trapped in Maryland were examined for neutralizing antibodies to infectious canine hepatitis, canine distemper, canine herpes, and parainfluenza SV-5 viruses. Neutralizing antibodies to infectious canine hepatitis, previously found in skunks in the area, were demonstrated in 6 of 50 raccoons. Sera from 2 of 25 skunks and 21 of 25 raccoons had canine distemper neutralizing antibodies. Infectious canine hepatitis and canine distemper antibodies were not demonstrable in sera of 25 opossums and 9 woodchucks. No neutralizing antibody to canine herpes or SV-5 virus were found in any of the sera tested.

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Suga, Nobuo, and Peter Schlegel. NEURAL ATTENUATION OF RESPONSES TO EMITTED SOUNDS IN ECHOLOCATING BATS. *Science* 177(4043): 82-84, 1 fig. 7 July 1972. *WR 148: 28*
[Washington Univ., St. Louis, Mo.]

Watkins, Larry C., J. Knox Jones, Jr., and Hugh H. Genoways. BATS OF JALISCO MÉXICO. *Spec. Publ. Mus. Tex. Tech Univ.* no. 1. 44 p., 3 figs. 8 Dec. 1972. Price $1.00. *WR 148: 29*
Annotated list of 62 spp.

Whitaker, John O., Jr. FOOD HABITS OF BATS FROM INDIANA. *Canadian J. Zool.* 50(6): 877-883. 1972. [From Biol. Abstr. 54(12), 1972. In English with French summ.] *WR 148: 29*
[Ind. State Univ., Terre Haute.] *"Myotis keenii, M. lucifugus, M. sodalis, Lasionycteris noctivagans, Pipistrellus subflavus, Eptesicus fuscus, Lasiurus borealis, L. cinereus,* and *Nycticeius humeralis."*

Winkler, William G., and Devil B. Adams. UTILIZATION OF SOUTHWESTERN BAT CAVES BY TERRESTRIAL CARNIVORES. *Am. Midl. Nat.* 87(1): 191-200. Jan. 1972. *WR 148: 29*
[Southwest. Rabies Investigations Sta., University Park, N. Mex.] Abstract: Utilization of bat caves in the southwestern United States by terrestrial mammals was investigated. Raccoons *(Procyon lotor)* and striped skunks *(Mephitis mephitis)* made considerable use of the caves, feeding on fallen bats at the entrances and within the caves. Ringtail cats *(Bassariscus astutus)*, opossums *(Didelphis virginianus)* and other terrestrial mammals appeared to use the caves less extensively. There was evidence of raccoon denning in at least one cave. No evidence of any canids using the caves was found.

RABBITS & PIKAS

Adamczewska-Andrzejewska, Krystyna A., and Andrzej Szaniawski. RELATIONSHIP BETWEEN THE REAL INCREASE AND THE YIELD OF HARES IN POLAND. *Acta Theriol.* 17 (19): 259-265, 3 figs. Aug. 1972. In English with Polish summ. *WR 148: 29*
[Inst. Ecol., Polish Acad. Sci., Warsaw, Poland.]

Barash, David P. TERRITORIAL AND FORAGING BEHAVIOR OF PIKA *(OCHOTONA PRINCEPS)* IN MONTANA. *Am. Midl. Nat.* 89(1): 202-207, 4 figs. Jan. 1973. *WR 148: 29*
[State Univ. Coll., Oneonta, N.Y.] Abstract: I studied the individual and social behaviors of pika *(Ochotona princeps)* in Glacier National Park, Montana. The animals are socially intolerant and territorial, with intolerance increasing steadily following mating in late spring. The young exhibit adult social behavior within a few weeks after emergence. Auditory communication is described, along with haying and feeding behavior and patterns of daily activity. Correlation between pika social organization and ecology is discussed.

Bothma, J. du P., and James G. Teer. PRENATAL GROWTH OF THE COTTONTAIL RABBIT IN SOUTH TEXAS. *Southwestern Nat.* 17(4): 345-348. 10 Jan. 1973. *WR 148: 29*
[Univ. Pretoria, Pretoria, South Africa.] Measurements of known-age cottontails showed that the young in utero were smaller than Missouri rabbits of the same ages. However, they were similar in size at birth. A prenatal curve was fitted by hand for crown-rump length; hind foot length and body weight data were also presented.--From abstr.

Dunsmore, J. D. A STUDY OF THE BIOLOGY OF THE WILD RABBIT IN CLIMATICALLY DIFFERENT REGIONS IN EASTERN AUSTRALIA. IV. THE RABBIT IN THE SOUTH COASTAL REGION OF NEW SOUTH WALES, AN AREA IN WHICH PARASITES APPEAR TO EXERT A POPULATION-REGULATING EFFECT. *Australian J. Zool.* 19(4): 355-370. Dec. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 29*

Hill, Edward P. III. AN EVALUATION OF SEVERAL BODY MEASUREMENTS FOR DETERMINING AGE IN LIVE JUVENILE COTTONTAILS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 269-281, 9 figs. 1972. *WR 148: 29*
[Ala. Coop. Wildl. Res. Unit, Auburn.] Tarsus length provided the best estimate of age in young *Sylvilagus floridanus.*

Markham, O. Doyle, and F. Ward Whicker. NOTES ON THE BEHAVIOR OF THE PIKA *(OCHOTONA PRINCEPS)* IN CAPTIVITY. *Am. Midl. Nat.* 89(1): 192-199. Jan. 1973. *WR 148: 30*
[Environmental Branch, U.S. Atomic Energy Commission, Idaho Falls, Idaho.] Abstract: Pikas *(Ochotona princeps)* were trapped at Mount Evans, Colorado, and were held captive in individual cages and in two 1-acre enclosures near Fort Collins, Colo. When pikas were released into the enclosures in July and August territorial battles resulted, but when released in May and June, combats did not occur. However, the number of chases per pika-hour was as high in the spring as during July and August. Pikas collected vegetation for their haystacks and constructed trails through the vegetation in the summer and tunnels through the snow during the winters. In general, their behavior in the 1-acre enclosures appeared similar to that observed in their natural habitat.

Merino Garcia, Nelson. COMPROBACION DE LA PRESENCIA EN CUBA DE LA ENCEFALITIS ENZOOTICA DE LOS CONEJOS. [VERIFICATION OF THE PRESENCE IN CUBA OF ENZOOTIC ENCEPHALITIS IN RABBITS.] *Rev. Cubana Cienc. Vet.* 1(2): 141-152, illus. 1970. [From Biol. Abstr. 54(12), 1972. In Spanish with English summ.] *WR 148: 30*
[Cent. Nac. Invest. Cient., Havana, Cuba.]

Millar, John S. TIMING OF BREEDING OF PIKAS IN SOUTHWESTERN ALBERTA. *Canadian J. Zool.* 50(5): 665-693, illus. 1972. [From Biol. Abstr. 54(10), 1972. In English with French summ.] *WR 148: 30*
[Univ. West. Ontario, London, Ontario, Canada.] *"Ochotona princeps."*

Mykytowycz, R., and M. L. Dudziński. AGGRESSIVE AND PROTECTIVE BEHAVIOUR OF ADULT RABBITS *ORYCTOLAGUS CUNICULUS* (L.) TOWARDS JUVENILES. *Behaviour* 43(1-4): 97-120, 8 figs. + 1 pl. 1972. In English with German summ. *WR 148: 30*
[CSIRO, Canberra, Australia.] Adult wild rabbits, *Oryctolagus cuniculus* (L.) were confronted experimentally in their own pens with 0-60 day old kittens of three different descents: "own" "group" and "strangers." The ability to differentiate between kittens of these three categories was displayed by adults of both sexes and was statistically significant for a number of measures taken. The aggression of adult females and the protection of males in relation to kittens are discussed generally and the important role of territoriality in inhibiting aggression in wild rabbits is emphasized.--From summ.

Nottage, Edward J. COMPARATIVE FEEDING TRIALS OF *SYLVILAGUS FLORIDANUS* AND *SYLVILAGUS TRANSITIONALIS*. *Univ. Conn.* v + 39 p., 8 figs. 1972. *WR 148: 30*
[Univ. Conn., Storrs.]

Pelton, Michael R., and James H. Jenkins. PRODUCTIVITY OF GEORGIA COTTONTAILS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 261-268. 1972. *WR 148: 30*
[Univ. Tenn., Knoxville.]

Pulliainen, Erkki. NUTRITION OF THE ARCTIC HARE *(LEPUS TIMIDUS)* IN NORTHEASTERN LAPLAND. *Ann. Zool. Fenn.* 9(1): 17-22. 1972. [From Biol. Abstr. 54 (12), 1972.] *WR 148: 30*
[Univ. Helsinki, Helsinki, Finland.]

Regnery, David C., and James H. Miller. A MYXOMA VIRUS EPIZOOTIC IN A BRUSH RABBIT POPULATION. *J. Wildl. Dis.* 8(4): 327-331, 1 fig. Oct. 1972. *WR 148: 30*
[Stanford Univ., Stanford, Calif.] Abstract: During the spring and summer months of 1964 more than 95% of a population of brush rabbits *(Sylvilagus bachmani)* became infected with Californian myxoma virus. The characteristics of the epizootic and its effect on this species reinforce the assumption that the brush rabbit is an endemic reservoir of the Californian myxoma virus.

Solov'ev, G. V., and I. S. Fedorov. [COMPARATIVE MORPHOLOGICAL DESCRIPTION OF SOME SUBSPECIES OF THE ALPINE HARE IN THE FAR EAST BY STATISTICAL METHODS.] *Izv. Sib. Otd. Akad. Nauk SSR Ser. Biol.-Med. Nauk* 2. p. 156-161. 1971. [From Biol. Abstr. 54(10), 1972. In Russian with English summ.] *WR 148: 30*
"Lepus timidus, L. t. gichiganus, and *L. t. oril."*

Sorensen, Michael F., John P. Rogers, and Thomas S. Baskett. PARENTAL BEHAVIOR IN SWAMP RABBITS. *J. Mammal.* 53(4): 840-849, 2 figs. Nov. 1972. *WR 148: 31*
[Patuxent Wildl. Res. Cent., Laurel, Md.] *"Sylvilagus aquaticus."*

Stoddart, Laurence Charles. POPULATION BIOLOGY OF THE BLACK-TAILED JACKRABBIT *(LEPUS CALIFORNICUS)* IN NORTHERN UTAH. *Ph.D. thesis, Utah State Univ.* 151 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973.] *WR 148: 31*

RODENTS--MISCELLANEOUS

Ambrose, Harrison W. III. EFFECT OF HABITAT FAMILIARITY AND TOE-CLIPPING ON RATE OF OWL PREDATION IN *MICROTUS PENNSYLVANICUS.* *J. Mammal.* 53(4): 909-912. Nov. 1972. *WR 148: 31*
[Cornell Univ., Ithaca, N.Y.]

Amstitslavskaya, T. S. [DYNAMICS OF THE MITOTIC ACTIVITY IN EPIDERMAL TISSUES OF *CLETHRIONOMYS GLAREOLUS* OF DIFFERENT SEASONAL GENERATIONS.] *Ekologiya* 1(4): 68-74, illus. 1970. [From Biol. Abstr. 54(12), 1972. In Russian.] *WR 148: 31*
[Inst. Plant Anim. Ecol., Ural Branch, Acad. Sci. USSR, Sverdlovsk, USSR.]

Andrzejewski, R., H. Fejgin, and A. Liro. TRAPPABILITY OF TRAP-PRONE AND TRAP-SHY BANK VOLES. *Acta Theriol.* 16(25): 401-405. Nov. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 31*

Arłamowska-Palider, Anna, and Jacek Zabłocki. *MUSCULUS OMOTRANSVERSARIUS* IN THE LIGHT OF COMPARATIVE ANATOMY. *Acta Theriol.* 17(29): 381-389, 5 figs. Oct. 1972. In English with Polish summ. *WR 148: 31*
[Coll. Agric., Wrocław, Poland.]

Ashman, Portia Undell. THE EFFECTS OF A *TRYPANOSOMA GAMBIENSE* INFECTION ON SOME PHOTOPERIODIC RESPONSES OF *MICROTUS MONTANUS.* *Ph.D. thesis, Tulane Univ.* 242 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 31*

Best, Troy L. MOUND DEVELOPMENT BY A PIONEER POPULATION OF THE BANNER-TAILED KANGAROO RAT, *DIPODOMYS SPECTABILIS BAILEYI* GOLDMAN, IN EASTERN NEW MEXICO. *Am. Midl. Nat.* 87(1): 201-206, 4 figs. Jan. 1972. *WR 148: 31*
[Univ. Okla., Norman.] The development stages of two den complexes of *Dipodomys spectabilis baileyi* Goldman were observed from July 1966 to November 1970 in eastern New Mexico. Blackwater Draw, a broad, sandy-soiled drainage basin, extending eastward across Roosevelt Co., New Mexico, into Texas, is indicated as the route of dispersal for this species.--From abstr.

Bock, Ewa. USE OF FOREST ASSOCIATIONS BY BANK VOLE POPULATION. *Acta Theriol.* 17(16): 203-219, 5 figs. Aug. 1972. In English with Polish summ. *WR 148: 31*
[Nencki Inst. Exp. Biol., Warsaw, Poland.] *"Clethrionomys glareolus."*

Bovet, Jacques. DISPLACEMENT DISTANCE AND QUALITY OF ORIENTATION IN A HOMING EXPERIMENT WITH DEER MICE *(PEROMYSCUS MANICULATUS).* *Canadian J. Zool.* 50(6): 845-853. 1972. [From Biol. Abstr. 54(12), 1972. In English with French summ.] *WR 148: 31*

Bradley, W. Glen, and Roger A. Mauer. RODENTS OF A CREOSOTE BUSH COMMUNITY IN SOUTHERN NEVADA. *Southwestern Nat.* 17(4): 333-344. 10 Jan. 1973. *WR 148: 31*
[Univ. Nev., Las Vegas.]

Buckner, C. H. THE STRATEGY FOR CONTROLLING RODENT DAMAGE TO PINES IN THE CANADIAN MID-WEST. *Proc. 5th Vertebr. Pest Conf.* p. 43-48. 1972. *WR 148: 31*
[Canadian Forestry Serv., Ottawa, Ontario, Canada.] *"Microtus pennsylvanicus."*

Buckner, Charles H., and Jean Marie Bergeron. BODY WATER AND FAT CONTENT IN THE REDBACK VOLE. *Acta Theriol.* 17(20): 267-269. Aug. 1972. In English. *WR 148: 32*
[Canadian Forestry Serv., Ottawa, Ontario, Canada.] *"Clethrionomys gapperi."*

Cavanaugh, Daniel Christopher. A CRITICAL EVALUATION OF CURRENT PROCEDURES RECOMMENDED TO DETECT PLAGUE IN RODENT POPULATIONS. *Ph.D. thesis, Univ. Md.* 115 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(5), 1972.] *WR 148: 32*

Chapman, Brian R. FOOD HABITS OF LORING'S KANGAROO RAT, *DIPODOMYS ELATOR*. *J. Mammal.* 53(4): 877-880. Nov. 1972. *WR 148: 32*
[Tex. Tech Univ., Lubbock.]

Christov, Lubomir, and Georgij Markov. A POPULATION OF *CLETHRIONOMYS GLAREOLUS PIRINUS* ON THE VITOSHA MOUNTAIN, BULGARIA. III. INDIVIDUAL GROWTH CURVE. *Acta Theriol.* 17(26): 343-346, 1 fig. Oct. 1972. In English with Polish summ. *WR 148: 32*
[Inst. Zool., Bulgarian Acad. Sci., Sofia, Bulgaria.]

Clark, Dell O. THE EXTENDING OF COTTON RAT RANGE IN CALIFORNIA--THEIR LIFE HISTORY AND CONTROL. *Proc. 5th Vertebr. Pest Conf.* p. 7-14, 1 fig. 1972. *WR 148: 32*
[Calif. Dept. Agric., Sacramento.]

Clark, Tim W. ABERRANT COLORATION IN *MICROTUS PENNSYLVANICUS* FROM GRAND TETON NATIONAL PARK. *Northwest Sci.* 45(4): 227-228. Nov. 1971. [From J. Mammal. 53 (3, suppl.), 1972.] *WR 148: 32*

Clough, Garrett C. BIOLOGY OF THE BAHAMAN HUTIA, *GEOCAPROMYS INGRAHAMI*. *J. Mammal.* 53(4): 807-823, 5 figs. Nov. 1972. *WR 148: 32*
[Univ. R.I., Kingston.]

Crouch, Glenn L. SUSCEPTIBILITY OF PONDEROSA, JEFFREY, AND LODGEPOLE PINES TO POCKET GOPHERS. *Northwest Sci.* 45(4): 252-256. Nov. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 32*

Cyr, Michael Allen. PREDATORY BEHAVIOR OF THE GRASSHOPPER MOUSE *(ONYCHOMYS)*. *Ph.D. thesis, Univ. Calif.* (Los Angeles). 135 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973.] *WR 148: 32*

Deoras, P. J. RAT REDUCTION WITH INDIGENOUS METHODS. *Proc. 5th Vertebr. Pest Conf.* p. 168-177, [2 figs.]. 1972. *WR 148: 32*
[Haffkine Inst., Bombay, India.] *"Laggada booduga, Bandicota gigentia, B. bengalensis, Golunda ellioti, Rattus rattus,* and *Suncus coerulus."*

Drożdż, Andrzej, Andrzej Górecki, and Katarzyna Sawicka-Kapusta. BIOENERGETICS OF GROWTH IN COMMON VOLES. *Acta Theriol.* 17(18): 245-257, 3 figs. Aug. 1972. In English with Polish summ. *WR 148: 32*
[Jagiellonian Univ., Kraków, Poland.] *"Microtus arvalis."*

Dub, Miroslav. MOVEMENTS OF *MICROTUS ARVALIS* PALL. AND A METHOD OF ESTIMATING ITS NUMBERS. *Zool. Listy* 20(1): 1-13. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 32*

Dub, Miroslav. REMARKS ON THE SEX RATIO OF *MICROTUS ARVALIS* (PALL.) CAUGHT IN PITFALL TRAPS. *Zool. Listy* 20(3): 207-213. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 32*

Evans, James, and Robert P. Matthews. PORCUPINE DAMAGE SURVEY IN WESTERN WASHINGTON, 1970-1971. *Wash. Forest Protection Assoc.* (Seattle). 14 p., 6 figs. May 1972. *WR 148: 33*

[Bur. Sport Fisheries & Wildl., Olympia, Wash.] In 1970-71, a questionnaire on porcupine damage was sent to representatives of private timber companies and State and Federal land managing agencies in Washington west of the Cascade crest. Analysis of the replies indicated that porcupine damage is increasing in the area west of Mt. St. Helens. However, there appears to be little change in the overall trend of porcupine damage since a similar survey in 1965, and damage can be considered widely scattered and generally light to insignificant at this time. --From abstr.

Fairley, J. S. THE FIELDMOUSE IN IRELAND. *Irish Nat. J.* 17(5): 152-159. Jan. 1972. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 33*

"Apodemus."

Fairley, J. S., and M. E. Comerton. AN EARLY-BREEDING POPULATION OF FIELDMICE *APODEMUS SYLVATICUS* (L.) IN LIMEKILN WOOD, ATHENRY, CO. GALWAY. *Proc. Roy. Irish Acad. Sect. B* 72(9): 149-163, illus. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 33*

Felten, Heinz, Friederike Spitzenberger, and Gerhard Storch. ZUR KLEIN-SAEUGERFAUNA WEST-ANATOLIENS: I. [ON SMALL MAMMALS FROM WESTERN ASIA MINOR: I.] *Senckenb. Biol.* 52(6): 393-424, illus. 1971. [From Biol. Abstr. 54(9), 1972. In German with English summ.] *WR 148: 33*

[Forsch.-Inst. Senckenb., Frankfurt/Main, Germany.] Samples of the rodents *Sciurus anomalus, Citellus citellus, Cricetulus migratorius, Mesocricetus brandti, Clethrionomys glareolus, Arvicola terrestris, Microtus arvalis, M. guentheri, Pitymys majori, Mus musculus, Rattus norvegicus, R. rattus,* and *Meriones tristrami* from Western Asia Minor were investigated. In most species data are given on systematics, variability, ecology, and litter size.

Flowerdew, J. R. THE EFFECT OF SUPPLEMENTARY FOOD ON A POPULATION OF WOOD MICE *(APODEMUS SYLVATICUS). J. Anim. Ecol.* 41(3): 553-566, 7 figs. Oct. 1972. *WR 148: 33*

[Univ. Keele, Keele, Staffordshire, England.] Summary: (1) Wood mice were trapped on two similar areas at Wytham. On the experimental area of 1.1 ha wheat was provided at each of 45 trap points; the adjacent control area was 1.5 ha. (2) During the spring growth period the mean weights of males and females on the experimental area were up to 20% higher than those on the control. (3) In the spring of 1968 the decline in numbers on the control area was much greater than on the experimental plot. In the summer of 1968 and the late winter of 1968-69 the experimental area had twice the population of the control. (4) The supplementary food increased both immigration and survival compared to the control. (5) A short interruption in the food supply on the experimental area coincided with a sudden decrease in numbers and survival. (6) The increased density on the experimental area in summer 1968 was shown to be the result of the better survival of overwintered and juvenile mice. (7) In the autumn of 1968 the increase in numbers was unexpectedly later on the experimental area. (8) Factors other than food supply affect wood mouse populations, especially in summer.

Garrido, Orlando H. LAS EXCRETAS DE *CAPROMYS* (RODENTIA: CAVIOMORPHA) Y SU IMPORTANCIA TAXONOMICA. [THE EXCRETIONS OF *CAPROMYS* (RODENTIA: CAVIOMORPHA) AND THEIR TAXONOMIC IMPORTANCE.] *Biotropica* 3(2): 145-150, illus. 1971. [From Biol. Abstr. 54(9), 1972. In Spanish with English summ.] *WR 148: 33*

[Lab. Vertebr., Inst. Biol., Acad. Cienc., Havana, Cuba.]

Gebczyński, Marek, Andrzej Górecki, and Andrzej Drożdż. METABOLISM, FOOD ASSIMILATION AND BIOENERGETICS OF THREE SPECIES OF DORMICE *(GLIRIDAE). Acta Theriol.* 17(21): 271-294, 7 figs. Oct. 1972. In English with Polish summ. *WR 148: 33*

[Mammals Res. Inst., Polish Acad. Sci., Białowieża, Poland.] *"Glis glis, Dryomys nitedula,* and *Muscardinus avellanarius."*

Genoways, Hugh H., and J. Knox Jones, Jr. VARIATION AND ECOLOGY IN A LOCAL POPULATION OF THE VESPER MOUSE *(NYCTOMYS SUMICHRASTI)*. *Occas. Pap. Mus. Tex. Tech Univ.* no. 3. 22 p., 5 figs. 29 Mar. 1972. *WR 148: 34*

Gill, Don, and Lawrence D. Cordes. WINTER HABITAT PREFERENCE OF PORCUPINES IN THE SOUTHERN ALBERTA FOOTHILLS. *Canadian Field Nat.* 86(4): 349-355, 5 figs. Oct.-Dec. 1972. *WR 148: 34*
[Univ. Alberta, Edmonton, Alberta, Canada.]

Gladkina, T. S. [GEOGRAPHICAL VARIABILITY OF TWO SUBSPECIES OF COMMON VOLE *(MICROTUS ARVALIS)*.] *Zool. Zh.* 51(2): 267-279, illus. 1972. [From Biol. Abstr. 54(10), 1972. In Russian with English summ.] *WR 148: 34*
[All-Union Inst. Plant Prot., Leningrad, USSR.] *"Microtus arvalis caspicus and M. a. duplicatus."*

Gregor, Gary L., Richard F. Smith, Lynn S. Simons, and Howard B. Parker. BEHAVIORAL CONSEQUENCES OF CROWDING IN THE DEERMOUSE *(PEROMYSCUS MANICULATUS)*. *J. Comp. Physiol. Psychol.* 79(3): 488-493, illus. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 34*
[Univ. Utah, Salt Lake City.]

Grzegorczyk, Krzysztof. [FLEAS *(SIPHONAPTERA)* FROM NESTS OF LONGTAILED FIELDMICE *APODEMUS SYLVATICUS* (L.) IN THE SURROUNDINGS OF POZNAŃ.] *Badania Fizjogr. Polska Zachodnia* 24(ser. B). p. 59-74. 1971. [From J. Mammal. 53(3, suppl.), 1972. In Polish with English summ.] *WR 148: 34*

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Hill, Richard W. THE AMOUNT OF MATERNAL CARE IN *PEROMYSCUS LEUCOPUS* AND ITS THERMAL SIGNIFICANCE FOR THE YOUNG. *J. Mammal.* 53(4): 774-790, 2 figs. Nov. 1972. *WR 148: 34*
[Mich. State Univ., East Lansing.]

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[Denver Wildl. Res. Cent., Denver, Colo.]

Hooper, Emmet T. A SYNOPSIS OF THE RODENT GENUS *SCOTINOMYS*. *Occas. Pap. Mus. Zool. Univ. Mich.* 665. p. 1-32, illus. 1972. [From Biol. Abstr. 54(7), 1972.] *WR 148: 34*

Hubbard, Daniel Hugh. INTERACTIONS BETWEEN THE SHORT-TAILED SHREW, *BLARINA BREVICAUDA* AND THE MEADOW VOLE, *MICROTUS PENNSYLVANICUS*. *Ph.D. thesis, Univ. N.H.* 92 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(5), 1972.] *WR 148: 34*

Iverson, Stuart L., and Brian N. Turner. WINTER COEXISTENCE OF *CLETHRIONOMYS GAPPERI* AND *MICROTUS PENNSYLVANICUS* IN A GRASSLAND HABITAT. *Am. Midl. Nat.* 88 (2): 440-445, 1 fig. Oct. 1972. *WR 148: 34*
[Whiteshell Nuclear Res. Establishment, Atomic Energy Canada Ltd., Pinawa, Manitoba, Canada.] Abstract: In October 1969 numerous red-backed voles *(Clethrionomys gapperi)* immigrated into a field normally occupied mainly by meadow voles *(Microtus pennsylvanicus)*, established home ranges, and survived well until February 1970, when they began to disappear. Both species were at peak populations during the winter of 1969-70 in the Pinawa, Manitoba, area. The times of immigration and emigration corresponded with the end and onset of reproductive activity in the resident *Microtus*. It is suggested that *Clethrionomys* are normally excluded from grassland habitats by reproductively active and aggressive *Microtus*. In winter *M. pennsylvanicus* is less aggressive and the species can

coexist. Winter colonization, allowed by the breakdown of habitat separation due to aggressive behavior, may explain the ubiquitous presence of forest animals in the isolated groves which are common in the aspen parkland.

Jorga, Werner. DIE SUEDLICHE VERBREITUNGSGRENZE DER NORDISCHEN WUEHLMAUS, *MICROTUS OECONOMUS*, AUF DEM GEBIET DER DDR UND BEMERKUNGEN ZU DEREN GRENZPOPULATIONEN. [THE SOUTHERN LIMIT OF THE DISTRIBUTION OF THE NORTHERN VOLE, *MICROTUS OECONOMUS*, IN THE AREA OF EAST GERMANY AND REMARKS ON ITS BOUNDARY POPULATIONS.] *Hercynia Fachgeb. Bot. Geogr. Geol. Palaontol. Zool.* 8(4): 286-306, illus. 1971. [From Biol. Abstr. 54(9), 1972. In German.] *WR 148: 35*
[Weinbergst. 15, Bad Liebenwerda, Germany.]

Joule, James, and David L. Jameson. EXPERIMENTAL MANIPULATION OF POPULATION DENSITY IN THREE SYMPATRIC RODENTS. *Ecology* 53(4): 653-660, 2 figs. Summer 1972. *WR 148: 35*
[Univ. Houston, Houston, Tex.] Abstract: Three abundant rodents, the cotton rat *(Sigmodon hispidus)*, the harvest mouse *(Reithrodontomys fulvescens)*, and the rice rat *(Oryzomys palustris)* are sympatric in south-east Texas. From January 1970 to May 1970, six presumably homogeneous areas, three experimental and three control, were live-trapped. Mark-release-recapture and selective removal techniques were used to monitor species compositions within the areas. Estimates of the number of individuals per species, body weights, and sex ratios were obtained at 2-week intervals. When cotton rats were experimentally removed, no change in the mean weights of harvest mice or rice rats was revealed by linear regression analysis. When harvest mice and rice rats were removed, cotton rat females exhibited a significant increase in mean weight. A significant change in sex ratio of cotton rats, from a greater proportion of males to a greater proportion of females, was recorded in the areas where harvest mice and rice rats were removed. Although the number of captures per species declined, comparisons of the different experimental manipulations could be made throughout the study.--Courtesy/ Paul A. Stewart.

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[Univ. London King's Coll., London, England.] Aggressive behavior has been observed in rats, *Rattus norvegicus*, and fourteen other species of small mammals. Ultrasounds were detected during aggressive behavior in at least seven of these species, and in rats two distinct types of signal were recorded. The physical characteristics of the ultrasounds produced by the different species are described and the importance of these signals in the establishment and maintenance of social relationships in small mammals is discussed.--From abstr.

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[Denver Wildl. Res. Cent., Denver, Colo.] The acute oral toxicity tests indicated that of the 13 spp. of birds and mammals tested, only wild and albino Norway rats were highly susceptible to the lethal action of UK 786 [5-(N-piperidino)-10,11-dihydro-5H-dibenzo (a.d.)-cycloheptene].

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[D.S.I.R., Wellington, New Zealand.] The Polynesian rat *(Rattus exulans)* can inflict substantial damage to green nuts of palms.

SCIURIDS

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[Alberta Dep. Agric., Canada.]

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[Memorial Univ. Newfoundland, St. John's, Newfoundland, Canada.] *"Tamias striatus."*

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[Calif. State Dep. Publ. Health, 2151 Berkeley Way, Berkeley, Calif.]
Abstract: Rabies was confirmed by specific laboratory tests in an Eastern fox squirrel *(Sciurus niger)* which was shot in San Leandro, Alameda County, California, in August, 1971. The rabid animal had displayed aggressive, furious behavior. The one person who had been exposed, during an unprovoked attack, subsequently underwent antirabies treatment. Except in aberrant, isolated cases, such as described herein, rabies is only rarely diagnosed in rodents in the United States. Antirabies treatment for rodent bites is seldom justified, unless rabies has been demonstrated by reliable laboratory tests.

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[State Univ. N.Y., Binghampton.] *"Marmota monax."*

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[Ohio Dep. Nat. Resour., New Marshfield.]

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[Inst. Méd. Tropicale Prince Léopold, Antwerp, Belgium.] Abstract: Six species and two subspecies are reported from North American rodents including the new species *Sciurocoptes tamias* from the Eastern Chipmunk, *Tamias striatus*. Synonymies are given.

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[Johns Hopkins Univ., Baltimore, Md.] *"Sciurus aberti."*

Farentinos, Robert C. SOCIAL DOMINANCE AND MATING ACTIVITY IN THE TASSEL-EARED SQUIRREL *(SCIURUS ABERTI FERREUS)*. *Anim. Behav.* 20(2): 316-326, 3 figs. May 1972. *WR 148: 43*
[Johns Hopkins Univ., Baltimore, Md.] Abstract: The behaviour of a wild population of tassel-eared squirrels was investigated from September 1969 to January 1971. Squirrels were live captured and marked for individual recognition. Adult squirrels were generally non-gregarious throughout the non-mating season. During the mating season (April and May) periodic bouts of sexual activity occurred involving interactions between an oestrous female and a group of socially ranked males. The most dominant male in each mating bout was first to copulate with the female. Aggressive behaviour in males was also positively correlated with the frequency of copulation. Male dominance hierarchies were characterized by non-linear arrangements and were relatively unstable over bouts. Certain males tended to be dominant in their own home areas with females from the same areas.

Galbavy, Edward J., J. A. Panuska, Thomas F. Albert, and Michael M. Orlando. BLOOD GASES OF WOODCHUCKS AT REDUCED BODY TEMPERATURES. *J. Mammal.* 53(4): 919-921. Nov. 1972. *WR 148: 43*
[Georgetown Univ., Washington, D.C.] *"Marmota monax."*

Halloran, Arthur F. THE BLACK-TAILED PRAIRIE DOG: YESTERDAY AND TODAY. *Inst. Great Plains J.* 11(2): 138-144, 1 fig. Spring 1972. *WR 148: 43*
"Cynomys ludovicianus."

Hart, E. B. A SIMPLE AND EFFECTIVE LIVE TRAP FOR POCKET GOPHERS. *Am. Midl. Nat.* 89(1): 200-202, 1 fig. Jan. 1973. *WR 148: 43*
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[Imperial Coll. Field Sta., Ascot, Berkshire, England.]

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[Imperial Coll. Field Sta., Ascot, Berkshire, England.]

King, John M., Alan Woolf, and James N. Shively. NATURALLY OCCURRING SQUIRREL FIBROMA WITH INVOLVEMENT OF INTERNAL ORGANS. *J. Wildl. Dis.* 8(4): 321-324, 4 figs. Oct. 1972. *WR 148: 44*
[Cornell Univ., Ithaca, N.Y.] Abstract: One of two gray squirrels *(Sciurus carolinensis)* with typical skin lesions attributable to the squirrel fibroma virus also had generalized disease involving fibromatous reactions in the lung, liver, kidney, lymph node; and focal adenomatoid changes in the lung.

Meredith, Don H. SUBALPINE COVER ASSOCIATIONS OF *EUTAMIAS AMOENUS* AND *EUTAMIAS TOWNSENDII* IN THE WASHINGTON CASCADES. *Am. Midl. Nat.* 88(2): 348-357, 5 figs. Oct. 1972. *WR 148: 44*
[Univ. Alberta, Edmonton, Alberta, Canada.] Abstract: Yellow-pine chipmunks, *Eutamias amoenus*, and Townsend's chipmunks, *E. townsendii*, were live-trapped in the subalpine zone in Mount Rainier National Park, Washington. Home ranges overlapped, both intra- and interspecifically. Tree islands offered the most dense and least variable cover. Talus slides were not analyzed, but were considered to have a high quality cover due to their structure. Both species were significantly more abundant in tree islands than in other cover types. *E. townsendii* males were significantly more abundant in talus slides than *E. amoenus* males and females. Niche separation of the two chipmunks on the basis of cover utilization is implied.

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Mueller, Paul, and Indulis Vermanis. EINE NEUE SUBSPEZIES VON *SCIURUS INGRAMI* (RODENTIA: SCIURIDAE) DER INSEL VON SÃO SEBASTIÃO (STAAT SÃO PAULO, BRASILIEN). [A NEW SUBSPECIES OF *SCIURUS INGRAMI* (RODENTIA: SCIURIDAE) FROM THE ISLAND OF SÃO SEBASTIÃO (SÃO PAULO, BRAZIL).] *Senckenb. Biol.* 52(6): 377-380, illus. 1971. [From Biol. Abstr. 54(9), 1972. In German.] *WR 148: 44*
[Univ. Saarl., Saabruecken, Germany.]

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[Rostov Res. Inst. Antiplague, Rostov/Don, USSR.]

Ofcarcik, R. P., E. E. Burns, and J. G. Teer. ACCEPTANCE OF SELECTED ACORNS BY CAPTIVE FOX SQUIRRELS. *Southwestern Nat.* 17(4): 349-355. 10 Jan. 1973. *WR 148: 44*
[Tex. A&M Univ., College Station.] Preferences were correlated to chemical and physical attributes of the acorns. Sample preference within species was correlated to low tannin content. Preferred types had less fat and redder shells. Acorns from the red and black oak group were favored over the white oaks. An acquired preference was shown for acorns from the native habitat of the squirrels.--From abstr.

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Pavlinin, V. N., and E. S. Nekrasov. [MORPHOLOGICAL AND PHYSIOLOGICAL CHARACTERISTICS OF THE RED-CHEEKED SOUSLIK IN VARIOUS PARTS OF ITS RANGE.] *Ekologiya* 2(2): 87-89. 1971. [From Biol. Abstr. 54(7), 1972. In Russian.] *WR 148: 45*
[Inst. Plant Anim. Ecol., Ural Branch, Acad. Sci. USSR, Sverdlovsk, USSR.] *"Citellus major."*

Reynolds, Hudson G., and Frank Turkowski. REPRODUCTIVE VARIATIONS IN THE ROUND-TAILED GROUND SQUIRREL AS RELATED TO WINTER RAINFALL. *J. Mammal.* 53(4): 893-898, 1 fig. Nov. 1972. *WR 148: 45*
[Rocky Mountain Forest & Range Exp. Sta., Ft. Collins, Colo.] *"Spermophilus tereticaudus."*

Schueler, Ronald L. CEREBRAL NEMATODIASIS IN A RED SQUIRREL. *J. Wildl. Dis.* 9(1): 58-60, 1 fig. Jan. 1973. *WR 148: 45*
[Univ. Md., College Park.] *"Sciurus granatensis."*

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"Spermophilus armatus."

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[Carleton Univ. Ottawa, Ontario, Canada.] Abstract: Seven aberrantly colored eastern chipmunks *(Tamias striatus)*, three melanistic, two albinistic, one with a white dorsolateral patch, and one with dilute pigmentation, from Ontario and Quebec are described.

Turner, Larry W. HABITAT DIFFERENCES BETWEEN *SPERMOPHILUS BELDINGI* AND *SPERMOPHILUS COLUMBIANUS* IN OREGON. *J. Mammal.* 53(4): 914-917, 1 fig. Nov. 1972. *WR 148: 45*
[Univ. Minn., St. Paul.]

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[Modoc County Agric. Commission, Alturas, Calif.] *"Citellus oregonus."*

BEAVER

Gienc, Jan, and Teresa Doboszyńska. MACROMORPHOLOGICAL DESCRIPTION OF THE GENITAL ORGANS OF THE FEMALE BEAVER. *Acta Theriol.* 17(30): 399-406, 9 figs., 2 pls. Oct. 1972. In English with Polish summ. *WR 148: 45*
[Coll. Agric., Olsztyn, Poland.]

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[Univ. Alberta, Edmonton, Alberta, Canada.] The *in situ* sequence of physical and biological events that creates a discrete beaver *(Castor canadensis* Kuhl*)* habitat in the Mackenzie River Delta is traced through time.--From abstr.

MUSKRAT & NUTRIA

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[Publ. Health Dep., Berlin, Germany.] An account of the introduction of muskrats into Europe and their spread over the countries of Europe is presented. --From summ.

Evans, James, James O. Ellis, Roger D. Nass, and A. Lorin Ward. TECHNIQUES FOR CAPTURING, HANDLING, AND MARKING NUTRIA. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 295-315, 6 figs. 1972. *WR 148: 46*
[Denver Wildl. Res. Cent., Olympia, Wash.]

Moens, R., and G. Colin. LA LUTTE CONTRE LE RAT MUSQUE AU MOYEN D'APPATS EMPOISONNES A LA CHLOROPHACINONE: EXPERIENCES EFFECTUEES DANS LE BASSIN DE L'EAU BLANCHE. [CONTROL OF MUSKRATS BY CHLOROPHACINONE BAITS: EXPERIMENTS CONDUCTED IN THE "EAU BLANCHE" BASIN.] *Meded. Fac. Landbouwwet. Rijksuniv. Gent* 36(3): 1088-1097, illus. 1971. [From Biol. Abstr. 54(8), 1972. In French with English summ.] *WR 148: 46*
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[Bur. Sport Fisheries & Wildl., Davis, Calif.] *"Myocastor coypus."*

BEARS

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Miller, Robert L. A TELEPHONE ANSWERING SERVICE FOR REPORTING HUNTER-KILLED BEARS. *N.Y. Fish Game J.* 18(2): 144-145. July 1971. *WR 148: 46*
[N.Y. State Dep. Environ. Conserv., Albany.]

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RACCOON, RINGTAIL, COATI

Erken, A. H. M., and E. F. Jacobi. SUCCESSFUL BREEDING OF LESSER PANDA *(AILURUS FULGENS* F. CUVIER, 1825) AND LOSS THROUGH INOCULATION. *Bijd. Dierk.* 42(1): 92-95. 1972. [From J. Mammal. 53(3, suppl.), 1972. In (English) with French and German summ.] *WR 148: 46*

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MUSTELIDS

Bakeev, Y. N. [DISTRIBUTION AND POPULATION DYNAMICS OF THE SIBERIAN WEASEL IN THE WESTERN PART OF ITS RANGE IN THE USSR.] *Byull. Mosk. O-va. Ispyt. Prir. Otd. Biol.* 76(5): 28-39, illus. 1971. [From Biol. Abstr. 54(9), 1972. In Russian with English summ.] *WR 148: 46*
"Mustela sibirica."

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[Univ. Bucharest, Bucharest, Romania.]

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[Univ. Utah, Salt Lake City.] Metabolism of cold stressed weasels was 50-100% greater than that of normally shaped mammals of the same weight.--Courtesy/ Paul A. Stewart.

Fortenbery, Donald K. CHARACTERISTICS OF THE BLACK-FOOTED FERRET. *U.S. Bur. Sport Fish. Wildl. Resour. Publ.* 109. 8 p., illus. 1972. *WR 148: 47*
[Patuxent Wildl. Res. Cent., Rapid City, S. Dak.] Ferret numbers and distribution, identification, life history and habits, and how to find ferrets are the major topics of discussion.

Grakov, N. N. [EFFECT OF CONCENTRATED WOODS FELLINGS ON THE ABUNDANCE OF THE PINE MARTEN *(MARTES MARTES* L.).] *Byull. Mosk. O-va. Ispyt. Prir. Otd. Biol.* 77 (1): 14-23. 1972. [From Biol. Abstr. 54(12), 1972. In Russian with English summ.] *WR 148: 47*

Gusev, O. K. RESTORATION OF SABLE. *Priroda* (Moscow). p. 68-74. Nov. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 47*

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Long, Charles A. TAXONOMIC REVISION OF THE NORTH AMERICAN BADGER, *TAXIDEA TAXUS*. *J. Mammal.* 53(4): 725-759, 11 figs. Nov. 1972. *WR 148: 47*
[Univ. Wis., Stevens Point.]

Mazák, Vratislav. [COMMENTS ON THE PROBLEM OF *MUSTELA MINUTA* (POMEL, 1853).] *Lynx, New Ser.* (11): 40-44. 1970. [From J. Mammal. 53(3, suppl.), 1972. In Czech with English summ.] *WR 148: 47*

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Reimov, R., and T. Nuratdinov. [ECOLOGICAL AND MORPHOLOGICAL CHARACTERISTICS OF SOME SPECIES OF THE FAMILY MUSTELIDAE IN THE LOWER REACHES OF THE AMU-DAR'YA RIVER.] *Ekologiya* 1(5): 83-84. 1970. [From Biol. Abstr. 54(7), 1972. In Russian.] *WR 148: 47*
"Meles meles leptorhynchus, Mustela nivalis, Vormela peregusna negans, and *Mustela eversmanni talassieus."*

MUSTELIDS--Continued

Sargeant, Alan B., George A. Swanson, and Harold A. Doty. SELECTIVE PREDATION BY MINK, *MUSTELA VISON*, ON WATERFOWL. *Am. Midl. Nat.* 89(1): 208-214. Jan. 1973. *WR 148: 48*
[Northern Prairie Wildl. Res. Cent., Jamestown, N. Dak.]

Sheets, Robert G. A TRAP FOR CAPTURING BLACK-FOOTED FERRETS. *Am. Midl. Nat.* 88(2): 461-462, 1 fig. Oct. 1972. *WR 148: 48*
[Iowa Conserv. Commission, Boone.] Abstract: A tubular live trap is described that was successfully used to capture both adult and young *Mustela nigripes*.

Sheets, Robert G., Raymond L. Linder, and Robert B. Dahlgren. FOOD HABITS OF TWO LITTERS OF BLACK-FOOTED FERRETS IN SOUTH DAKOTA. *Am. Midl. Nat.* 87(1): 249-251. Jan. 1971. [From J. Mammal. 63(3, suppl.), 1972.] *WR 148: 48*

Sokolov, I. I., and A. S. Sokolov. [SOME CHARACTERISTICS OF LOCOMOTOR ORGANS OF *MARTES MARTES* L. ASSOCIATED WITH ITS MODE OF LIFE.] *Byull. Mosk. O-va. Ispyt. Prir. Otd. Biol.* 76(6): 40-51. 1971. [From Biol. Abstr. 54(9), 1972. In Russian with English summ.] *WR 148: 48*

Sprent, J. F. A. *TOXOCARA VAJRASTHIRAE* SP. NOV. FROM THE HOG-BADGER *(ARCTONYX COLLARIS)* OF THAILAND. *Parasitology* 65(3): 491-498, 17 figs. Dec. 1972. *WR 148: 48*
[Univ. Queensland, Brisbane, Queensland, Australia.]

DOGS, WOLVES, FOXES

Amyx, Herbert L., and David L. Huxsoll. RED AND GRAY FOXES--POTENTIAL RESERVOIR HOSTS FOR *EHRLICHIA CANIS*. *J. Wildl. Dis.* 9(1): 47-50, 1 fig. Jan. 1973. *WR 148: 48*
[Walter Reed Army Inst. Res., Washington, D.C.] Abstract: Infection with *Ehrlichia canis* was successfully established in the red fox, *Vulpes fulva*, and the gray fox, *Urocyon cinereoargenteus*. Transtadial transmission of *Ehrlichia canis* from an infected fox to a laboratory Beagle dog by the tick, *Rhipicephalus sanguineus*, was demonstrated.

Beck, Alan M. THE ECOLOGY OF STRAY DOGS: A STUDY OF FREE-RANGING URBAN ANIMALS. *York Press Publ.* (Baltimore, Md.). 98 p., illus., 6 x 9 in. 1973. Price $9.50. *WR 148: 48*
Intensive study of free-ranging domestic dog *(Canis familiaris)* based on the doctoral research of the author. The ecology and behavior of urban dogs, and their relation to human ecology and behavior are discussed. Photographic recapture method (based on Schnabel and Petersen-Lincoln Index) used to estimate the free-ranging dog population in study area. Techniques described in appendix. Estimates of 450 to 750 free-ranging dogs per square mile were projected to a population of 32,400 to 54,000 free-ranging dogs in Baltimore (72 sq. mi.). Baltimore, seventh largest city in the U.S., is probably typical of large cities in regard to the urban free-ranging dog problem. Other aspects of dog study include distribution, activity, land use patterns, home range, food and water procurement, shelter, social organization, and mortality. Public health problems of free-ranging dogs are discussed including a section on diseases and parasites. Recommendations for urban dog control conclude this interesting and thorough study.--Courtesy/ Matthew C. Perry.

Chesemore, David L. HISTORY AND ECONOMIC IMPORTANCE OF THE WHITE FOX, *ALOPEX*, FUR TRADE IN NORTHERN ALASKA 1798-1963. *Canadian Field Nat.* 86(3): 259-267, 1 fig. July-Sept. 1972. *WR 148: 48*
[Okla. State Univ., Stillwater.] Since 1929 a steady decline in pelt value and total harvest of white fox has occurred and today, with a few local exceptions, the trapping of this furbearer has little impact on the economy of Alaska.--From abstr.

Fairley, J. S. THE CONTROL OF THE FOX, *VULPES VULPES* (L.), POPULATIONS IN NORTHERN IRELAND. *Sci. Proc. Roy. Dublin Soc. Ser. B* 3(3): 43-47. June 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 49*

Flower, Eric. LOBOS EM PORTUGAL (1933-1957). [WOLVES IN PORTUGAL (1933-1957).] *Direcção-Geral Serv. Florestais & Aguicolas.* 70 p., [15 figs.]. 1971. In Portuguese and English. *WR 148: 49*
"Canis lupus signatus."

Gipson, Philip S. THE TAXONOMY, REPRODUCTIVE BIOLOGY, FOOD HABITS AND RANGE OF WILD *CANIS* (CANIDAE) IN ARKANSAS. *Ph.D. thesis, Univ. Ark.* 196 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(5), 1972.] *WR 148: 49*

Henshaw, Robert E., Larry S. Underwood, and Timothy M. Casey. PERIPHERAL THERMOREGULATION IN TWO ARCTIC CANINES. *Science* 175(4025): 988-990, 3 figs. 3 Mar. 1972. *WR 148: 49*
[Pa. State Univ., University Park.] *"Alopex lagopus* and *Canis lupus."*

Kleiman, Devra G. SOCIAL BEHAVIOR OF THE MANED WOLF *(CHRYSOCYON BRACHYURUS)* AND BUSH DOG *(SPEOTHOS VENATICUS)*: A STUDY IN CONTRAST. *J. Mammal.* 53(4): 791-806, 5 figs. Nov. 1972. *WR 148: 49*
[Natl. Zool. Park, Washington, D.C.]

Linhart, Samuel B., and Weldon B. Robinson. SOME RELATIVE CARNIVORE DENSITIES IN AREAS UNDER SUSTAINED COYOTE CONTROL. *J. Mammal.* 53(4): 880-884. Nov. 1972. *WR 148: 49*
[Denver Wildl. Res. Cent., Denver, Colo.]

Martensz, P. N. OBSERVATIONS ON THE FOOD OF THE FOX, *VULPES VULPES* (L.), IN AN ARID ENVIRONMENT. *CSIRO Wildl. Res.* 16(1): 73-75. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 49*
[Div. Wildl. Res., CSIRO, Canberra, Australia.]

Mathwig, Herbert J. FOOD AND POPULATION CHARACTERISTICS OF IOWA COYOTES. *Iowa State J. Res.* 47(3): 167-189, 2 figs. Feb. 1973. *WR 148: 49*
[Moraine Valley Community Coll., Palo Hills, Ill.] Principal foods in the stomachs by percentage volume were as follows: rabbits, 70.6; livestock, 14.0; mice, 10.5; and birds, 4.2. Principal foods in the scats by percentage volume were the following: plant foods, 29.2; rabbits, 27.6; mice and rats, 24.6; and livestock, 7.4. The results of this study demonstrate that Iowa coyotes are neutral or beneficial in at least 85% of their diet, while 15% of their diet may have detrimental effects. The increase in bounties from 1965 to 1970 indicates that the carrying capacity for these animals has not yet been reached in Iowa; however, this may also reflect increased interest in hunting of coyotes.--From abstr.

Newsome, A. E., L. K. Corbett, and D. R. Stephens. ASSESSMENT OF AN AERIAL BAITING CAMPAIGN AGAINST DINGOES IN CENTRAL AUSTRALIA. *Australia CSIRO Div. Math. Stat. Tech. Pap.* 24. p. 3-11, illus. 1972. [From Biol. Abstr. 54(12), 1972.] *WR 148: 49*
[CSIRO, Lyneham, Canberra, Australia.] *"Canis familiaris dingo."*

Pelikán, Jaroslav. [RESEARCH OF CARNIVORE ECOLOGY AND THE INTERNATIONAL BIOLOGICAL PROGRAMME.] *Lynx, New Ser.* (11): 9-11. 1970. [From J. Mammal. 53 (3, suppl.), 1972. In Czech with English summ.] *WR 148: 49*

Phillips, Robert L. NOTES ON THE BEHAVIOR OF RED FOXES IN A LARGE ENCLOSURE. *Proc. Iowa Acad. Sci.* 78. p. 36-37. 1971. *WR 148: 49*
[Bur. Sport Fisheries & Wildl., Middle Valley, Minn.] Synopsis: Information is presented on the general behavior of captive red foxes *(Vulpes vulpes)* living in a 13-acre enclosure with a high cottontail rabbit *(Sylvilagus floridanus)*

population. The high predator population rapidly reduced the prey population in a short period of time. Observations were made on the feeding behavior of young fox pups and their responses to traps. There was evidence that territories were established by the foxes, even in this limited enclosure.

Riley, Glynn A., and Roy T. McBride. A SURVEY OF THE RED WOLF *(CANIS RUFUS)*. *U.S. Fish Wildl. Spec. Sci. Rep. Wildl.* no. 162. iii + 15 p., 4 figs. 1972. For sale by Supt. Documents, GPO, Washington, D.C. *WR 148: 50*
Distribution, description and limiting factors with a discussion of hybridization between *Canis rufus* and *C. latrans*.

Roop, Larry. LOBOS IN EXILE. *Wyo. Wildl.* 36(2): 8-9. Feb. 1972. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 50*

Russell, Dennis N., and James H. Shaw. DISTRIBUTION AND RELATIVE DENSITY OF THE RED WOLF IN TEXAS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 131-137, 3 figs. 1972. *WR 148: 50*
[Tex. Parks & Wildl. Dep., Austin.] *"Canis rufus."*

Stone, Ward B., Eugene Parks, and Howard Parish. A DWARF, BRACHYCEPHALIC GRAY FOX. *N.Y. Fish Game J.* 18(2): 139-141, 3 figs. July 1971. *WR 148: 50*
[N.Y. State Dep. Environ. Conserv., Albany.] *"Urocyon cineroargenteus."*

Stone, Ward B., Jr., Eugene Parks, Bruce L. Weber, and Frances J. Parks. EXPERIMENTAL TRANSFER OF SARCOPTIC MANGE FROM RED FOXES AND WILD CANIDS TO CAPTIVE WILDLIFE AND DOMESTIC ANIMALS. *N.Y. Fish Game J.* 19(1): 1-11, 7 figs. Jan. 1972. *WR 148: 50*
[N.Y. State Dep. Environ. Conserv., Albany.] Abstract: Sarcoptic mange of red fox or wild canid origin was successfully transmitted to captive red foxes, gray foxes, dogs and wild canids, but only transitory infestations resulted in the gray fox. No mange infestations resulted in raccoons, striped skunks, opossums, cats, chipmunks, gray squirrels, woodchucks, rats, mice or a cottontail rabbit contaminated with sarcoptic mites of red fox origin. Since sarcoptic mange mites from red foxes are readily interchanged among red foxes, dogs and wild canids, it appears that red foxes are parasitized by the *Sarcoptes scabiei* var. *canis* of dogs.

CATS

Acharjyo, L. N. A NOTE ON THE BIRTH OF A GOLDEN CAT *(FELIS TEMMINCKI)* IN CAPTIVITY. *J. Bombay Nat. Hist. Soc.* 68(1): 241. Apr. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 50*

Grobler, J. H., and Vivian J. Wilson. FOOD OF THE LEOPARD *PANTHERA PARDUS* (LINN.) IN THE RHODES MATOPOS NATIONAL PARK, RHODESIA, AS DETERMINED BY FAECAL ANALYSIS. *Arnoldia* 5(35): 1-10, [3 figs.]. 29 Sept. 1972. *WR 148: 50*
[Dep. Natl. Parks & Wildlife Manage., Rhodesia.] The leopard in the Matopos National Park appear to be opportunists but show a preference for small animals, mainly mammals.--From summ.

Hell, P. SCHUTZ UND ERHALTUNG DES LUCHSES IN EUROPA. [PROTECTION AND MAINTENANCE OF THE LYNX IN EUROPE.] *Z. Jagdwiss.* 18(1): 32-36, illus. 1972. [From Biol. Abstr. 54(12), 1972. In German.] *WR 148: 50*
"Lynx lynx."

Lueps, Peter. ZWEI NEUE NACHWEISE DER WILDKATZE IM KANTON BERN (1969-1970). [TWO NEW RECORDS OF THE WILD CAT IN THE CANTON BERN (1969-1970).] *Mitt. Naturforsch. Ges. Bern* 28: 71-73. 1971. [From Biol. Abstr. 54(7), 1972. In German.] *WR 148: 50*
[Naturhist. Mus. Abt. Werbeltiere, Bern, Switzerland.] Observations (2) of *Felis s. silvestris* in the Jura Mountains of Bern in 1969 and 1970 are reported. These are the only records of the wild cat in this area since 1930.

Mortelmans, J., and P. Kageruka. EXPERIMENTAL *TRYPANOSOMA BRUCEI* INFECTION IN LIONS. *Acta Trop.* 28(4): 329-333. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 51*

Nowak, Ronald M. A POSSIBLE OCCURRENCE OF THE JAGUAR IN LOUISIANA. *Southwestern Nat.* 17(4): 430-432. 10 Jan. 1973. *WR 148: 51*
[Univ. Kans., Lawrence.]

Sagartz, J. W., F. M. Garner, and R. M. Sauer. MULTIPLE NEOPLASIA IN A CAPTIVE JUNGLE CAT *(FELIS CHAUS)* -- THYROID ADENOCARCINOMA, GASTRIC ADENOCARCINOMA, RENAL ADENOMA, AND SERTOLI CELL TUMOR. *J. Wildl. Dis.* 8(4): 375-380, 7 figs. Oct. 1972. *WR 148: 51*
[Armed Forces Inst. Pathol., Washington, D.C.]

Sladek, Jozef, Aristid Mosansky, and Jozef Palasthy. VARIABILITAET DER LINEAREN KRANIOLOGISCHEN MERKMALE BEI DER WESTKARPATISCHEN POPULATION DER WILDKATZE, *FELIS SILVESTRIS* SCHREBER, 1777. [VARIABILITY OF THE LINEAR CRANIOLOGICAL CHARACTERISTICS OF THE WESTERN CARPATHIAN POPULATION OF THE WILD CAT, *FELIS SILVESTRIS* SCHREBER, 1777.] *Zool. Listy* 21(1): 23-37, illus. 1972. [From Biol. Abstr. 54(9), 1972. In German with English summ.] *WR 148: 51*
[Coll. Forestry & Wood Technol., Zvolen, Czechoslovakia.]

BIG GAME, GENERAL

Anderson, Roy C. THE ECOLOGICAL RELATIONSHIPS OF MENINGEAL WORM AND NATIVE CERVIDS IN NORTH AMERICA. *J. Wildl. Dis.* 8(4): 304-310, 1 fig. Oct. 1972. *WR 148: 51*
[Univ. Guelph, Guelph, Ontario, Canada.] Abstract: The author reviews the relationship of meningeal worm *(Parelapostrongylus tenuis)* and its usual host, the white-tailed deer *(Odocoileus virginianus)*. Important alterations in the environment in the past 100 years have greatly expanded the northern range of white-tailed deer and brought host and parasite into contact with other native cervids such as moose *(Alces americana)*, mule deer *(Odocoileus hemionus)*, and woodland caribou *(Rangifer tarandus)* in which meningeal worm is highly pathogenic. There is evidence the parasite is spreading westward with deer in the aspen-parklands of Canada. Meningeal worm can apparently have considerable impact on moose populations in endemic areas. Possibly the existence of clinical disease in moose in an area should be regarded as evidence of a much more widespread disease problem which may have eventually a serious impact on the population.

Baleishis, R. M. [INFORMATION ON LOSS OF ELKS IN LITHUANIA IN 1969.] *Liet TSR Mokslu Akad. Darb. Ser. B* 1. p. 79-82. 1972. [From Biol. Abstr. 54(12), 1972. In Russian with English summ.] *WR 148: 51*
[Inst. Zool. Parasitol., Acad. Sci. Lith. SSR, Vilnius, USSR.] *"Alces alces."*

Barrett, Morley W., and Gordon A. Chalmers. *CAPILLARIA HEPATICA* (NEMATODA: TRICHURIDAE) IN PRONGHORN ANTELOPE *(ANTILOCAPRA AMERICANA* ORD) IN ALBERTA. *J. Wildl. Dis.* 8(4): 332-334, 1 fig. Oct. 1972. *WR 148: 51*
[Alberta Dep. Lands & Forests, Lethridge, Alberta, Canada.] Abstract: During January and February, 1971, 41 carcasses of pronghorn antelope *(Antilocapra americana* Ord*)*, killed by vehicles, starvation and predators in southeastern Alberta, were examined. Livers of four does contained white to yellow lesions beneath Glisson's capsule and within the hepatic parenchyma. Histopathologic examination revealed numerous ova of *Capillaria hepatica* (Bancroft 1893). Ova were surrounded by granulomatous reactions characterized by collagenous fibers and fibrous tissue; many were fragmented and contained calcium and iron salts. No adults were found. Widespread granulomatous reactions and mineralized, fragmented ova suggested that ova were non-viable and that pronghorn antelope are accidental and unsuitable hosts. This is the first published record of *C. hepatica* in pronghorn antelope specifically, and in North American ruminants, generally.

Bhattacharjee, M. L., and B. R. Halder. THE OCCURRENCE OF *FASCIOLA GIGANTICA* IN THE LIVER OF AN INDIAN RHINOCEROS *(R. UNICORNIS)*. *British Vet. J.* 127(5): 7-8. May 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 52*

Bindernagel, J. A. LIVER FLUKE *FASCIOLA GIGANTICA* IN AFRICAN BUFFALO AND ANTELOPES IN UGANDA, EAST AFRICA. *J. Wildl. Dis.* 8(4): 315-317. Oct. 1972. *WR 148: 52*
[Univ. Guelph, Guelph, Ontario, Canada.] The liver fluke *Fasciola gigantica* was recovered from 58% of 82 African buffalo *(Syncerus caffer)*, 47% of 103 Uganda kob *(Adenota (Kobus) kob)*, and 47% of 47 Jackson's hartebeest *(Alcelaphus buselaphus jacksoni)* examined in the West Acholi District of Uganda in 1965-67. None of 22 oribi *(Ourebia ourebi)* was infected.--From abstr.

Bobek, Bogusław, January Weiner, and Jan Zieliński. FOOD SUPPLY AND ITS CONSUMPTION BY DEER IN A DECIDUOUS FOREST OF SOUTHERN POLAND. *Acta Theriol.* 17(15): 187-202, 2 figs. Aug. 1972. In English with Polish summ. *WR 148: 52*
[Jagiellonian Univ., Kraków, Poland.]

Borowski, Stanisław, and Simona Kossak. THE NATURAL FOOD PREFERENCES OF THE EUROPEAN BISON IN SEASONS FREE OF SNOW COVER. *Acta Theriol.* 17(13): 151-169, 4 figs. Aug. 1972. In English with Polish summ. *WR 148: 52*
[Mammals Res. Inst., Polish Acad. Sci., Białowieża, Poland.]

Cameron, Raymond Darwin III. WATER METABOLISM BY REINDEER *(RANGIFER TARANDUS)*. *Ph.D. thesis, Univ. Alaska.* 109 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 52*

Caughley, Graeme. AN INVESTIGATION OF HYBRIDIZATION BETWEEN FREE-RANGING WAPITI AND RED DEER IN NEW ZEALAND. *New Zealand J. Sci.* 14(4): 993-1008, illus. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 52*
[Univ. Sydney, Sydney, New South Wales, Australia.] *"Cervus elaphus."*

Chapman, D. I., and Norma G. Chapman. FURTHER OBSERVATIONS ON THE INCIDENCE OF TWINS IN ROE DEER, *CAPREOLUS CAPREOLUS*. *J. Zool.* (London) 165(4): 505-509. Dec. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 52*

Child, Graham. TICK INFESTATIONS IN HARTEBEEST AND WILDEBEEST IN POOR PHYSICAL CONDITION IN THE KALAHARI. *Arnoldia* (Rhodesia) 5(24): 1-2. 2 Feb. 1972. *WR 148: 52*
[Dep. Natl. Parks & Wildl. Manage., Salisbury, Rhodesia.] *"Connochaetes taurinus* and *Alcelaphus buselaphus."*

Child, Graham. OBSERVATIONS ON A WILDEBEEST DIE-OFF IN BOTSWANA. *Arnoldia* (Rhodesia) 5(31): 1-13, 1 fig. 20 July 1972. *WR 148: 52*
[Dep. Natl. Parks & Wildl. Manage., Salisbury, Rhodesia.] Abstract: This survey of mass wildebeest mortality in the Lake Xau area of Central Botswana suggested differential mortality patterns that would have enhanced the population's rate of recovery once environmental conditions improved. There was a shift in the sex ratio in favour of females in most age classes, as well as relatively more deaths among the youngest and perhaps the oldest animals of both sexes. The result was an apparent increase in the reproductive potential per unit of population surviving the period of critical food shortage, due to an increase in the proportion of young females with a long reproductive life ahead of them.

Clarke, C. M. H. LIBERATIONS AND DISPERSAL OF RED DEER IN NORTHERN SOUTH ISLAND DISTRICTS. *New Zealand J. For. Sci.* 1(2): 194-207, illus. 1971. [From Biol. Abstr. 54(10), 1972.] *WR 148: 52*
[New Zealand For. Serv., Rangiora, New Zealand.] Data are presented on liberations, establishment, dispersal, and increase of red deer *(Cervus elaphus)* during the period 1851-1968 throughout northern South Island districts.

Decker, Eugene, editor. TRANSACTIONS OF THE FIRST NORTH AMERICAN WILD SHEEP CONFERENCE. *Colo. State Univ.* (Fort Collins). 188 p., illus. Apr. 1971. Copies available from Dep. Fish. & Wildl. Biol., Colo. State Univ., Fort Collins, at $2.50. *WR 148: 53*

The following papers are included: *The Dall sheep and its management in Alaska*, Lyman Nichols; *The desert bighorn of Arizona*, John P. Russo; *Bighorn sheep management in New Mexico*, Parry A. Larsen; *The bighorn sheep in Colorado*, Wayne W. Sandfort and William B. Rutherford; *The bighorn sheep in Utah--past and present*, Larry B. Dalton and J. Juan Spillett; *Development of a protective bacterin against pasteurellosis in bighorn sheep*, Peter Nash; *The clinical and pathological effect of* Protostrongylus stilesi *on bighorn X mouflon hybrid sheep*, Sara Ellen McGlinchy; *The life cycle of* Protostrongylus stilesi *in bighorn sheep*, Ruth Ann Monson; *Application of physiologic values to bighorn sheep management*, Albert W. Franzmann; *A die-off due to pneumonia in a semi-captive herd of Rocky Mountain bighorn sheep*, Tom Thorne; *The pneumonia complex in bighorn sheep*, George Post; *Estimating plant composition of wild sheep diet*, R. M. Hansen; *An inexpensive method of marking large numbers of Dall sheep for movement studies*, Norman M. Simmons; *The use of M-99 etorphine and acetylpromazine in the immobilization and capture of free ranging Rocky Mountain bighorn sheep*, Tom Thorne; *Analysis of winter habitat by multispectral remote sensing*, Ralph R. Root; *An ecological view of bighorn habitat on Mt. San Antonio*, Jerome T. Light, Jr.; *Habitat management for the desert bighorn*, Jim Yoakum; *Human disturbance as a limiting factor of Sierra Nevada bighorn sheep*, David J. Dunaway; and *The Wind River bighorn herd--a new approach to sheep habitat management*, William Crump.

Feliński, Leon, Grazyna Kaczmarek, and Marek Kurpios. [LIPID METABOLISM IN RUMINANTS FROM THE ZOOLOGICAL GARDENS IN POLAND.] *Przegl. Zool.* 15(2): 201-205. 1971. [From J. Mammal. 53(3, suppl.), 1972. In Polish with English summ.] *WR 148: 53*

Follis, Thomas Burton. REPRODUCTION AND HEMATOLOGY OF THE CACHE ELK HERD. *Ph.D. thesis, Utah State Univ.* 147 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973.] *WR 148: 53*

Follis, Thomas B. REPRODUCTION AND HEMATOLOGY OF THE CACHE ELK HERD. *Utah State Div. Wildl. Resour. Publ.* no. 72-8. xii + 133 p., 8 figs. 1972. *WR 148: 53*

Major topics of discussion were: Pregnancy rate determinations in the Cache elk herd; breeding efficiency of yearling male elk; hormone inducement of twins in elk; and collection of basic physiologic, parasitic, and disease information.

Guthrie, R. D. FANNIN'S COLOR VARIATION OF THE DALL SHEEP, *OVIS DALLI*, IN THE MENTASTA MOUNTAINS OF EASTERN ALASKA. *Canadian Field Nat.* 86(3): 288-289, 2 figs. July-Sept. 1972. *WR 148: 53*

[Univ. Alaska, College.]

Hibler, C. P., R. E. Lange, and C. J. Metzger. TRANSPLACENTAL TRANSMISSION OF *PROTOSTRONGYLUS* SPP. IN BIGHORN SHEEP. *J. Wildl. Dis.* 8(4): 389. Oct. 1972. *WR 148: 53*

[Colo. State Univ., Fort Collins.]

Hoff, Gerald Lawrence. EPIZOOTIOLOGICAL STUDIES ON THE VIRUSES OF BLUE-TONGUE AND EPIZOOTIC HEMORRHAGIC DISEASE IN WILD RUMINANTS. *Ph.D. thesis, Univ. Wis.* 167 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973.] *WR 148: 53*

"Odocoileus virginianus, O. hemionus, Antilocapra americana, Cervus canadensis, Muntacus muntjak, and *Tragelaphus capensis."*

Hofmann, R. R., and D. R. M. Stewart. GRAZER OR BROWSER: A CLASSIFICATION BASED ON THE STOMACH-STRUCTURE AND FEEDING HABITS OF EAST AFRICAN RUMINANTS. *Mammalia* 36(2): 226-240. 1972. In English with French summ. *WR 148: 53*

[Vet. Anat. Inst. Univ., Frankfurterstr., Giessen, Germany.] The stomach-structure of wild East African ruminants varies considerably according to their

preferred diet, and allows a more precise definition of feeding behaviour than the commonly-adopted division into 'browser' or 'grazer'. Thirty-one species are thus classified, and the information available on their food habits is summarized.--From summ.

Jarman, P. J. THE DEVELOPMENT OF A DERMAL SHIELD IN IMPALA. *J. Zool.* 166(3): 349-356, illus. 1972. [From Biol. Abstr. 54(9), 1972.] *WR 148: 54*
[Serengeti Res. Inst., Tanzania Natl. Parks, Arusha, Tanzania.]

Kormilitsin, A. A., and A. I. Dulitskii. [REACCLIMATIZATION OF *SUS SCROFA* L. IN THE CRIMEA.] *Vestn. Zool.* 6(1): 38-44, illus. 1972. [From Biol. Abstr. 54 (12), 1972. In Russian with English summ.] *WR 148: 54*

Kruse, William H. EFFECTS OF WILDFIRE ON ELK AND DEER USE OF A PONDEROSA PINE FOREST. *U.S. For. Serv. Res. Note RM-226.* 4 p. 1972. *WR 148: 54*
Summary: After a wildfire, elk use shifted from an old seeded clearcut to a newly seeded burn for the first 2 years. The third year showed an equalizing trend of elk use between the two habitat conditions. The trend of decreasing deer use on thinned areas continued, but use increased substantially on the wildfire area.

Łomnicki, Adam. PLANNING OF DEER POPULATION MANAGEMENT BY NON-LINEAR PROGRAMMING. *Acta Theriol.* 17(12): 137-150. Aug. 1972. In English with Polish summ. *WR 148: 54*
[Nat. Conserv. Res. Cent., Kraków, Poland.]

Lowe, V. P. W. VARIATION IN MANDIBLE LENGTH AND BODY WEIGHT OF RED DEER *(CERVUS ELAPHUS). J. Zool.* 166(3): 303-311, illus. 1972. [From Biol. Abstr. 54(9), 1972.] *WR 148: 54*
[Merlewood Res. Sta., Grange-over-Sands, Lancashire, England.]

Mallinson, Jermy J. C. THE PIGMY HOG *SUS SALVANIUS* (HODGSON) IN NORTHERN ASSAM. *J. Bombay Nat. Hist. Soc.* 68(2): 424-433, illus. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 54*

McNeely, Jeffrey A., and Edward W. Cronin. RHINOS IN THAILAND. *Oryx* 11(6): 455-460, illus. Sept. 1972. *WR 148: 54*
Thailand rhinos, the Javan (or lesser one-horned) *Rhinoceros sondaicus* and the Sumatran (or Asian two-horned) *Dicerorhinus sumatrensis* are on their way to extinction. Protective measures are suggested.

Mullin, Steven W., and Frederick C. Colley. COCCIDIAN PARASITES (PROTOZOA: EIMERIIDAE) OF THE LESSER MOUSE DEER, *TRAGULUS JAVANICUS. S.E. Asian J. Trop. Med. Pub. Health* 2(4): 441-443. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 54*

Norderhaug, Magnar. DISTRIBUTION OF THE SVALBARD REINDEER *(RANGIFER TARANDUS PLATYRHYNCHUS)* IN 1969-70. *Nor. Polarinst. Årbok* 1970: 53-58. 1972. [From J. Mammal. 53(3, suppl.), 1972. With Russian summ.] *WR 148: 54*

Rudger, M. R. HORNS AS INDICATORS OF AGE IN GOATS *(CAPRA HIRCUS* L.*). New Zealand J. Sci.* 15(2): 256-263, 2 figs. June 1972. *WR 148: 54*
[DSIR, Lower Hutt, New Zealand.] Summary: The horns of a herd of goats of mixed age and sex were marked annually to determine the periodicity of ring formation. Rings were not formed consistently at any particular time of year, nor necessarily in annual sequence. The formation of double rings, failure to grow for several years, and omission of a growth ring in some years made the ring count an unreliable indicator of age. The lack of a sharp seasonal variation in climate and food supply, together with almost continuous breeding in the region where the trial was conducted were considered responsible for the lack of periodicity in horn growth.

Ryul, Li Sang. DISTRIBUTION OF WATER DEER AND ITS ACCLIMATIZATION. *Korean Nat.* 1: 7. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 55*

Sapozhnikov, G. N. [EXTERNAL CHARACTERISTICS OF THE WILD SHEEP OF TADZHIKISTAN.] *Byull. Mosk. O-va. Ispyt. Prir. Otd. Biol.* 76(5): 45-53. 1971. [From Biol. Abstr. 54(9), 1972. In Russian with English summ.] *WR 148: 55*
"Ovis orientalis vignei and *O. o. polii."*

Schaller, George B., and Zahid Beg Mirza. ON THE BEHAVIOUR OF KASHMIR MARKHOR *(CAPRA FALCONERI CASHMIRIENSIS). Mammalia* 35(4): 548-566, illus. 1971. [From Biol. Abstr. 54(8), 1972. In English with French summ.] *WR 148: 55*
[N.Y. Zool. Soc., New York.]

Schröder, W. [A STUDY ON THE ECOLOGY OF CHAMOIS *(R. RUPICAPRA* L.) IN AN ALPINE RANGE.] *Z. Jagdwiss.* 17(4): 197-235. Dec. 1971. [From J. Mammal. 53 (3, suppl.), 1972. In German with English and French summ.] *WR 148: 55*

Shillito, Elizabeth E., and Valerie J. Hoyland. OBSERVATIONS ON PARTURITION AND MATERNAL CARE IN SOAY SHEEP. *J. Zool.* (London) 165(4): 509-512 + 2 pls. Dec. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 55*

Shult, Milo Jack. AMERICAN BISON BEHAVIOR PATTERNS AT WIND CAVE NATIONAL PARK. *Ph.D. thesis, Iowa State Univ.* 191 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 55*

Spinage, C. A. AFRICAN UNGULATE LIFE TABLES. *Ecology* 53(4): 645-652, 8 figs. Summer 1972. *WR 148: 55*
[Coll. African Wildl. Manage., Mweka, Box 3031, Moshi, Tanzania.] Abstract: The survival curves of four species of African ungulate -- impala, buffalo, zebra, and warthog -- derived from skulls found in the Akagera National Park, Rwanda, are compared. Three of the species are shown to have the typical logarithmic negatively-skewed adult curve shown by undisturbed large mammal populations, but warthogs apparently have a heavy age-constant number of deaths to middle-age. Attention is drawn to the limitations of time-specific data in the study of population dynamics.

Szymczyk, Wieslawa. MORFOLOGICZNE ADAPTACJE *PECORA.* [MORPHOLOGICAL ADAPTATIONS IN *PECORA.*] *Przegl. Zool.* 15(3): 315-320, illus. 1971. [From Biol. Abstr. 54(8), 1972. In Polish with English summ.] *WR 148: 55*
[Univ. Wroclawskiego, Breslau, Poland.]

Taylor, R. H. SELF-ATTACHING COLLARS FOR MARKING RED DEER IN NEW ZEALAND. *Deer* 1(10): 404-407. Nov. 1969. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 55*

Trevino, G. S., and C. L. Alden. "MUCOCYTES" IN THE BRAIN OF A LLAMA: A CASE REPORT. *J. Wildl. Dis.* 8(4): 359-364, 3 figs. Oct. 1972. *WR 148: 55*
[Fitzsimons General Hospital, Denver, Colo.]

Ueckermann, E. ZUR JAGDLICHEN NUTZUNGSFAEHIGKEIT VON ROT-, DAM- UND SCHWARZWILDBESTAENDEN NACH BEOBACHTUNGEN IN EINEM JAGDGATTER. [ON THE EXPLOITATION THROUGH HUNTING OF RED DEER, FALLOW DEER, AND WILD BOAR, FROM THE RESULTS IN HUNTING ENCLOSURE.] *Z. Jagdwiss.* 18(1): 24-31, illus. 1972. [From Biol. Abstr. 54(12), 1972. In German with French and English summ.] *WR 148: 55*

Weber, Yvonne B., and Meredith L. Bliss. BLOOD CHEMISTRY OF ROOSEVELT ELK *(CERVUS CANADENSIS ROOSEVELTI). Comp. Biochem. Physiol.* 43A: 649-653. 1972. *WR 148: 55*
[Oreg. Zool. Res. Cent., Portland.] Values were determined for thirteen hematologic parameters in samples obtained from seven wild elk and five zoo elk. The results were grouped for comparison according to age and confinement. The results are compared and statistical analyses presented where relevant.--Courtesy/ Robert J. Fischer.

Weber, Yvonne B., and Luigi Gizcometti. SICKLING PHENOMENON IN THE ERYTHROCYTES OF WAPITI *(CERVUS CANADENSIS)*. *J. Mammal.* 53(4): 917-919, 1 fig. Nov. 1972. *WR 148: 56*
[Oreg. Zool. Res. Cent., Portland.]

Woolf, Alan, and David C. Kradel. MORTALITY IN CAPTIVE BIGHORN SHEEP -- CLINICAL, HEMATOLOGICAL, AND PATHOLOGICAL OBSERVATIONS. *J. Wildl. Dis.* 9(1): 12-17. Jan. 1973. *WR 148: 56*
[Rachelwood Wildl. Res. Preserve, New Florence, Pa.] Abstract: The onset and course of disease in a captive herd of Rocky Mountain bighorn sheep *(Ovis canadensis)* were studied. Major clinical signs were diarrhea, persistent coughs, mucopurulent nasal discharges, loss of weight, poor pelage appearance, and delayed pelage shedding. Primary pathological findings in 16 of 17 deaths were related to pneumonia. *Mycoplasma arginini, Pasteurella* sp., and *Streptococcus* sp. were isolated and considered probable etiologic agents. Parasites were not considered to be a primary cause of the clinical signs or the lung disease observed. Hematological changes indicated the chronicity of the disease and had prognostic and limited diagnostic value. Amyloidosis was observed in seven animals, suggesting a high susceptibility of the bighorn to secondary amyloidosis.

Woolf, Alan, Charles F. Nadler, and David C. Kradel. SERUM PROTEIN ELECTROPHORESIS IN BIGHORN SHEEP WITH CHRONIC PNEUMONIA. *J. Wildl. Dis.* 9(1): 7-11, 1 fig. Jan. 1973. *WR 148: 56*
[Rachelwood Wildl. Res. Preserve, New Florence, Pa.] *"Ovis canadensis."*

Young, A. S., A. D. Irvin, and M. J. Woodford. *HAEMATOXENUS* SPECIES FROM UGANDAN BUFFALO *SYNCERUS CAFFER*. *J. Wildl. Dis.* 9(1): 94-98, 3 figs. Jan. 1973. *WR 148: 56*
[E.A.V.R.O., Muguga, P.O. Kabete, Kenya.]

Zhirnov, L. V. [STUDY OF DAILY RHYTHM OF SAIGA ACTIVITY IN THE SEMIDESERT USING A NIGHT VISION APPARATUS.] *Ekologiya* 2(6): 38-41, illus. 1971. [From Biol. Abstr. 54(8), 1972. In Russian.] *WR 148: 56*

DEER (Odocoileus)

Anthony, Robert Gene. ECOLOGICAL RELATIONSHIPS BETWEEN MULE DEER AND WHITE-TAILED DEER IN SOUTHEASTERN ARIZONA. *Ph.D. thesis, Univ. Ariz.* 136 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(6), 1972.] *WR 148: 56*

Brokx, P. A. OVARIAN COMPOSITION AND ASPECTS OF THE REPRODUCTIVE PHYSIOLOGY OF VENEZUELAN WHITE-TAILED DEER *(ODOCOILEUS VIRGINIANUS GYMNOTIS)*. *J. Mammal.* 53(4): 760-773. Nov. 1972. *WR 148: 56*
[Ecol. & Environ., Inc., P.O. Box D, Buffalo, N.Y.]

Campbell, Dan L., and Roger W. Bullard. A PREFERENCE-TESTING SYSTEM FOR EVALUATING REPELLENTS FOR BLACK-TAILED DEER. *Proc. 5th Vertebr. Pest Conf.* p. 56-63, 3 figs. 1972. *WR 148: 56*
[Bur. Sport Fisheries & Wildl., Olympia, Wash.] *"Odocoileus hemionus columbianus."*

Carpenter, James W., Helen E. Jordan, and John A. Morrison. MENINGEAL WORM *(PARELAPHOSTRONGYLUS TENUIS)* INFECTION IN WHITE-TAILED DEER IN OKLAHOMA. *J. Wildl. Dis.* 8(4): 381-383. Oct. 1972. *WR 148: 56*
[Okla. Coop. Wildl. Res. Unit, Stillwater.] Abstract: In a survey of 77 white-tailed deer *(Odocoileus virginianus)* in Oklahoma, 51.9 percent were infected sub-durally with the meningeal worm *(Parelaphostrongylus tenuis* Pryadko and Boev, 1971*) (=Pneumostrongylus tenuis* Dougherty, 1945*)*. The occurrence of this parasite in Oklahoma establishes a new western range for the meningeal worm in this host.

Clark, Gary G. TRYPANOSOMES FROM MULE DEER IN NEW MEXICO AND COLORADO. *J. Wildl. Dis.* 8(4): 325-326. Oct. 1972. *WR 148: 57*
[Southern Res. Inst., Birmingham, Ala.] Abstract: *Trypanosoma* sp. was isolated from 6 of 11 mule deer *(Odocoileus hemionus)* in southwest and north-central New Mexico and from 12 of 15 mule deer in northcentral Colorado. To our knowledge, this represents the first reported isolation of trypanosomes from this species.

Corbett, R. Larry, R. Larry Marchinton, and Charles E. Hill. PRELIMINARY STUDY OF THE EFFECTS OF DOGS ON RADIO-EQUIPPED DEER IN A MOUNTAINOUS HABITAT. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 69-77, 1 fig. 1972. *WR 148: 57*
[Univ. Ga., Athens.]

Downing, Robert L. COMPARISON OF CRIPPLING LOSSES OF WHITE-TAILED DEER CAUSED BY ARCHERY, BUCKSHOT, AND SHOTGUN SLUGS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 77-92. 1972. *WR 148: 57*
[Bur. Sport Fisheries & Wildl., Blacksburg, Va.] Abstract: Of the 126 deer killed by hunters within a 746-acre enclosure at Albany, Georgia, during a 10-year period, 24 (19 percent) were not found by the hunter. Archers lost 4 of 8 deer killed (50 percent), gunners using buckshot lost 16 of 61 (26 percent), and gunners using shotgun slugs lost only 4 of 57 (7 percent). Antlered bucks were lost at more than twice the rate of antlerless deer. Only 2 of the 24 lost cripples were fawns, the lowest rate recorded for any group. In both sexes, yearlings were lost at a higher rate than older deer. Archery loss data from Virginia are included for comparison.

Free, Stuart L., Andrea S. Bergstrom, and John E. Tanck. MANDIBULAR AND DENTAL ANOMALIES OF WHITE-TAILED DEER. *N.Y. Fish Game J.* 19(1): 32-46, [14 figs.]. Jan. 1972. *WR 148: 57*
[N.Y. State Dep. Environ. Conserv., Albany.]

Harlow, Richard F., and Robert G. Hooper. FORAGES EATEN BY DEER IN THE SOUTH-EAST. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 18-46, 1 fig. 1972. *WR 148: 57*
[SE Forest Exp. Sta., Blacksburg, Va.] Abstract: An analysis was made of 956 rumen samples collected from white-tailed deer in the Appalachian Mountain, Piedmont, and Coastal Plain provinces in the Southeast during the four seasons. The study indicated that deer select the same type of diet seasonally although foraging in ecologically different areas. Hardened woody twigs had the lowest frequency of occurrence and lowest volume of all food categories. Green leaves of woody plants ranked highest in frequency of occurrence and volume. Mushrooms ranked third in frequency of occurrence and fifth in total volume. The annual contribution of forbs, grasses and sedges, fungi (mushrooms), and dry leaves totaled 35.9 percent by volume, equalling the amount provided by green leaves of woody plants.

Issel, Charles J., Daniel O. Trainer, and Wayne H. Thompson. EXPERIMENTAL STUDIES WITH WHITE-TAILED DEER AND FOUR CALIFORNIA GROUP ARBOVIRUSES (LA CROSSE, TRIVITTATUS, SNOWSHOE HARE, AND JAMESTOWN CANYON). *Am. J. Trop. Med. Hyg.* 21 (6): 979-984. Nov. 1972. *WR 148: 57*
[Univ. Wis., Madison.]

Issel, Charles J., Daniel O. Trainer, and Wayne H. Thompson. SEROLOGIC EVIDENCE OF INFECTIONS OF WHITE-TAILED DEER IN WISCONSIN WITH THREE CALIFORNIA GROUP ARBOVIRUSES (LA CROSSE, TRIVITTATUS, AND JAMESTOWN CANYON). *Am. J. Trop. Med. Hyg.* 21(6): 985-988, 1 fig. Nov. 1972. *WR 148: 57*
[Univ. Wis., Madison.]

Kohn, Bruce. WHAT'S HAPPENED TO THE NORTHERN DEER HERD? *Wis. Conserv. Bull.* 37(5): 6-8, illus. Sept.-Oct. 1972. *WR 148: 58*
[Forest Wildl. Res. Group, Rhinelander, Wis.] "Deer populations have dropped in Northern Wisconsin. Eliminating party permits did not stop the decline. The cause was a series of winters so severe that even good habitat probably would not have been a complete solution."

Marburger, R. G., R. M. Robinson, J. W. Thomas, M. J. Andregg, and K. A. Clark. ANTLER MALFORMATION PRODUCED BY LEG INJURY IN WHITE-TAILED DEER. *J. Wildl. Dis.* 8(4): 311-314, 3 figs. Oct. 1972. *WR 148: 58*
[Tex. Parks & Wildl. Dep., Kerrville.] Abstract: Field observations of 36 white-tailed bucks with malformed antlers suggested a cause-effect relationship between rear leg injury and antler malformation. Experimental procedures involving six bucks indicated that contralateral antler malformation can be produced by amputation of a rear leg.

Nelson, Maynard M., editor. PROCEEDINGS OF A SYMPOSIUM ON THE WHITE-TAILED DEER IN MINNESOTA. *Sect. Game, Minn. Dep. Nat. Resour.* vi + 88 p., illus. 1972. *WR 148: 58*
The following papers were presented at the University of Minnesota on November 13, 1971: *Why hunt deer?* Maynard M. Nelson; *What deer mean to Minnesota*, Vernon E. Gunvalson; *Reproductive biology of white-tailed deer*, Louis J. Verme; *Censuses and harvests*, Patrick D. Karns; *Wolves, coyotes and dogs*, L. David Mech; *Whitetails in winter*, James M. Peek; *The changing habitat scene*, John J. Mooty; *Timber management--yesterday and today*, William Aultfather; *Timber management: projections for the '70's*, Allen L. Lundgren; *Habitat programs needed*, Milton Stenlund; *The public's role*, James Carter; *Education is the answer*, Wallace Dayton; *Predator management with emphasis on the timber wolf*, Maynard M. Nelson; *Hunting seasons in the '70's*, Roger Holmes; and *The symposium in summary*, Keith W. Harmon.

Nicolls, Ken E. A LIGHT MICROSCOPIC STUDY OF NUCLEAR AND CYTOPLASMIC SIZE OF THE AGGREGATE ACIDOPHIL POPULATION IN THE HYPOPHYSIS CEREBRI, PARS DISTALIS, OF ADULT MALE MULE DEER, *ODOCOILEUS HEMIONUS HEMIONUS*, RELATIVE TO SEASONS OF THE PHOTOPERIOD AND ANTLER CYCLES. *Z. Zellforsch.* 115. p. 314-326, 5 figs. 1971. *WR 148: 58*

O'Farrell, Thomas P., and John D. Hedlund. WHITE-TAILED DEER, *ODOCOILEUS VIRGINIANUS*, IN SOUTH-CENTRAL WASHINGTON. *J. Mammal.* 53(4): 907-909, 1 fig. Nov. 1972. *WR 148: 58*
[Battelle Memorial Inst., Richland, Wash.]

Parker, H. Dennison. AIRBORNE INFRARED DETECTION OF DEER. *Ph.D. thesis, Colo. State Univ.* 200 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(6), 1972.] *WR 148: 58*

Presidente, Paul J. A., and Stuart E. Knapp. SUSCEPTIBILITY OF CATTLE TO AN ISOLATE OF *DICTYOCAULUS VIVIPARUS* FROM BLACK-TAILED DEER. *J. Wildl. Dis.* 9(1): 41-43. Jan. 1973. *WR 148: 58*
[Univ. Guelph, Guelph, Ontario, Canada.]

Presidente, Paul J. A., Stuart E. Knapp, and Ron E. Dean. TREATMENT AND CONTROL OF *DICTYOCAULUS VIVIPARUS* IN CAPTIVE BLACK-TAILED DEER. *J. Wildl. Dis.* 9(1): 34-40, 1 fig. Jan. 1973. *WR 148: 58*
[Univ. Guelph, Guelph, Ontario, Canada.]

Rayburn, Walker H., Jr., and Frederick S. Barkalow, Jr. SEASONAL DEER BROWSE PREFERENCE FOR TUPELO AND GREEN ASH. *J. For.* 71(1): 31-33. Jan. 1973. *WR 148: 58*
[U.S. Army Corps of Engineers, Wilmington, N.C.] Abstract: In a cut-over bottomland of eastern North Carolina, tupelo was preferred over green ash except in the spring when ash but not tupelo leaves had appeared. Browsing occurred

throughout the growing season, tapering off in late fall and winter and ceasing in February and March. There was no detectable difference in preference between nursery stock and wildlings or in height growth between exposed and protected seedlings. Damage by caterpillars in August resembles deer browsing so closely that it could inflate deer damage estimates by as much as 30 percent.

Roughton, Robert D. SHRUB AGE STRUCTURES ON A MULE DEER WINTER RANGE IN COLORADO. *Ecology* 53(4): 615-625, 7 figs. Summer 1972. *WR 148: 59*
[Denver Wildl. Res. Cent., Denver, Colo.] Shrub ages were determined by growth layer analysis on a winter range of mule deer *(Odocoileus hemionus)*. Shrub age structures may reflect current and past reproductive success and, hence, successional status. Irregularities may be related to fires, climate, rodent seed-caching, reproductive cycling, and use by animals.--Courtesy/ Paul A. Stewart.

Segelquist, Charles A., Mitch Rogers, and Fred D. Ward. QUANTITY AND QUALITY OF JAPANESE HONEYSUCKLE ON ARKANSAS OZARK FOOD PLOTS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 47-53. 1972. *WR 148: 59*
[Southern Forest Exp. Sta., Nacogdoches, Tex.] "This paper reports yield and nutritive quality of Japanese honeysuckle *(Lonicera japonica)* grown on wildlife food plots in the Arkansas Ozarks; it compares productivity on food plots to that of native vegetation in the surrounding forest. It also shows how the nutritional quality of honeysuckle varied by seasons and to what extent honeysuckle was browsed by white-tailed deer *(Odocoileus virginianus)*."

Smith, Arthur D., Paul A. Lucas, Calvin O. Baker, and George W. Scotter. THE EFFECTS OF DEER & DOMESTIC LIVESTOCK ON ASPEN REGENERATION IN UTAH. *Utah Div. Wildl. Resour. Publ.* no. 72-1. 32 p., 6 figs. 1972. *WR 148: 59*
[Utah State Univ., Logan.] The data indicate that populations of deer that were present at the study sites during the study had little effect on the development of aspen reproduction. By contrast, where livestock were present together with deer, utilization of aspen and terminal bud removal were substantially greater than where domestic livestock were absent. The results of attempts to stimulate aspen sprouts by girdling the standing trees or breaking the roots were largely negative. Although the plots with girdled trees yielded significantly more sprouts than appeared in the untreated aspen stands, they produced far fewer than where the stand was cut. Moreover, few of these sprouts survived to the second year following treatment. Disturbing the soil and roots did not significantly increase sprouting.--From summ.

Stauber, Erik, Patricia Armstrong, Kelley Chamberlain, and Bill Gorgen. CASEOUS LYMPHADENITIS IN A WHITE-TAILED DEER. *J. Wildl. Dis.* 9(1): 56-57. Jan. 1973. *WR 148: 59*
[Univ. Idaho, Moscow.] *"Odocoileus virginianus."*

Stevens, Deborah Sutherland. THERMAL ENERGY EXCHANGE AND THE MAINTENANCE OF HOMEOTHERMY IN WHITE-TAILED DEER. *Ph.D. thesis, Cornell Univ.* 254 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(4), 1972.] *WR 148: 59*

Stone, Ward B. DERMATOPHILOSIS CUTANEOUS STREPTOTHRICOSIS IN A WHITE-TAILED DEER FAWN. *N.Y. Fish Game J.* 19(1): 92-95, 1 fig. Jan. 1972. *WR 148: 59*
[N.Y. Dep. Environ. Conserv., Albany.]

Stormer, Fred Anthony. POPULATION ECOLOGY AND MANAGEMENT OF WHITE-TAILED DEER OF CRANE NAVAL AMMUNITION DEPOT. *Ph.D. thesis, Purdue Univ.* 294 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(6), 1972.] *WR 148: 59*

Webb, Lloyd G., and C. Boyd Loadholt. THE SIGNIFICANCE OF A "TIME LAG" IN CONDUCTING A POSTAL SURVEY OF ARCHERY DEER HUNTERS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 82-85. 1972. *WR 148: 59*
[Clemson Univ., Clemson, S.C.] A tabulation of the information obtained from a postal survey revealed that the 301 archery hunters had killed 30 deer. These same 301 hunters had previously reported a total kill of 10 deer when answering

the question on the hunt permits at the close of the archery hunts. A comparison of the postal survey data and the returned "hunt permit" data, as regards the number of visits and the number of hours hunted, revealed also that the information submitted in the postal survey was greater than that reported at the conclusion of the hunts. The general conclusions made from the analyses of these two "sets" of data from the same archery hunters were (1) that postal surveys of hunters should be conducted immediately after the conclusion of the hunts involved and (2) that hunters with a special interest may possibly, at times, be inclined to report erroneous information so as to achieve a specific objective.--From abstr.

Whitehead, Clifton J., Jr. A PRELIMINARY REPORT ON WHITE-TAILED AND BLACK-TAILED DEER CROSSBREEDING STUDIES IN TENNESSEE. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 65-69. 1972. *WR 148: 60*

[Tenn. Game & Fish Comm., Nashville.] Abstract: Hybridization of white-tailed and black-tailed deer was investigated over a three year period in Tennessee. White-tailed deer were placed in pens with black-tailed deer of the opposite sex, and hybrid deer were readily obtained. Hybrids were placed in pens with fertile, purebred white-tailed and black-tailed deer of the opposite sex. None of the hybrids produced young during their first year of life. During their second year of life, 50 percent of the hybrids produced young of which 66 percent were stillborn. Previous to this, all white-tailed, black-tailed hybrids were reported to be sterile. Hybrids could not be distinguished from blacktails, and white-tailed characteristics were lost.

Will, Gary Clayton. STUDIES OF NORTHERN IDAHO WHITE-TAILED DEER, 1969-1971. *Ph.D. thesis, Univ. Idaho.* 47 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33 (5), 1972.] *WR 148: 60*

"Odocoileus virginianus ochrourus."

Wilson, Steve N., and John A. Sealander. SOME CHARACTERISTICS OF WHITE-TAILED DEER REPRODUCTION IN ARKANSAS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 53-65, 3 figs. 1972. *WR 148: 60*

[Univ. Ark., Fayetteville.] The ovulation rate of 108 adult does collected statewide was 1.77 ova per doe. A pregnancy rate of 93% was calculated for 92 adult does collected in spring. The reproductive rate for 108 adult does was 1.66 fetuses per doe. This indicates that 93% of the fertilized eggs implanted. Of 143 fetuses old enough to be sexed; 59 were male and 84 female -- a sex ratio of 42:58. Fifty-three sets of twins were old enough to sex; 11 were male, 20 female, and 22 of opposite sex.--From abstr.

Zagata, Michael DeForest. RANGE AND MOVEMENT OF IOWA DEER IN RELATION TO PILOT KNOB STATE PARK, IOWA. *Ph.D. thesis, Iowa State Univ.* 260 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 60*

Zagata, M. D., and A. O. Haugen. PILOT KNOB STATE PARK: A WINTER DEER HAVEN. *Iowa State J. Res.* 47(3): 199-217, 5 figs. Feb. 1973. *WR 148: 60*

[Iowa State Univ., Ames.] The deer herd in Pilot Knob State Park and adjacent lands was studied to determine winter habitat requirements of deer *(Odocoileus virginianus)* in the intensively farmed northcentral portion of Iowa.--From abstr.

MAMMALS--MARINE

Baldridge, Alan. KILLER WHALES ATTACK AND EAT A GRAY WHALE. *J. Mammal.* 53 (4): 898-900. Nov. 1972. *WR 148: 60*

[Hopkins Marine Sta. Stanford Univ., Pacific Grove, Calif.] *"Orcinus orca* and *Eschrichtius robustus."*

Bigg, Michael Andrew. CONTROL OF ANNUAL REPRODUCTION IN THE FEMALE HARBOR SEAL, *PHOCA VITULINA*. *Ph.D. thesis, Univ. British Columbia.* 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973. To obtain a microfilm copy please order directly from the National Library of Canada, Ottawa.] *WR 148: 61*

Dailey, Murray D. A NEW SPECIES OF *HUNTEROTREMA* (DIGENEA: CAMPULIDAE) FROM THE AMAZON RIVER DOLPHIN *(INIA GEOFFRENSIS)*. *South. Calif. Acad. Sci. Bull.* 70 (2): 79-80. Aug. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 61*

Geraci, J. R., and W. Medway. SIMULATED FIELD BLOOD STUDIES IN THE BOTTLE-NOSED DOLPHIN *TURSIOPS TRUNCATUS*. 2. EFFECTS OF STRESS ON SOME HEMATOLOGIC AND PLASMA CHEMICAL PARAMETERS. *J. Wildl. Dis.* 9(1): 29-33. Jan. 1973. *WR 148: 61*
[Univ. Guelph, Guelph, Ontario, Canada.]

Hoerning, B., G. Pilleri, and F. Testi. SULLA PRESENZA DI NEMATODI DEL GENERE *HALOCERCUS* IN DELFINI *(DELPHINUS DELPHIS* L.) DEL MARE ADRIATICO. [*HALOCERCUS DELPHINI* IN THE LUNG OF *DELPHINUS DELPHIS* L. OF THE ADRIATIC SEA.] *Nuova Vet.* 47(1): 17-23, illus. 1971. [From Biol. Abstr. 54(7), 1972. In Italian with English and German summ.] *WR 148: 61*
[Vet. Univ. Bern, Bern, Switzerland.]

Kenchington, R. A. OBSERVATIONS ON THE DIGESTIVE SYSTEM OF THE DUGONG, *DUGONG DUGON* (ERXLEBEN). *J. Mammal.* 53(4): 884-887, 7 figs. Nov. 1972. *WR 148: 61*
[James Cook Univ. North Queensland, P.O. Box 999, Townsville, Queensland, Australia.]

Kenyon, Karl W. MAN VERSUS THE MONK SEAL. *J. Mammal.* 53(4): 687-696, 2 figs. Nov. 1972. *WR 148: 61*
[Marine Mammal Substation, Naval Support Activity, Seattle, Wash.] Observations indicate that the Kure population is declining. Evidence is presented that man's repeated disturbance of seals on beaches may increase juvenile mortality and cause seals to desert the beaches offering preferred habitat. In 1957 and 1958, the monk seal bred on six atolls of the Leeward Hawaiian Islands; by 1968, it bred regularly on five. It is postulated that during this 10-year period about 6% of the world population of this seal disappeared. A recent report (1971) indicates that the monk seal is attempting to recolonize isolated islets at Midway Atoll.--From abstr.

Le Boeuf, Burney J., Ronald J. Whiting, and Richard F. Gantt. PERINATAL BEHAVIOR OF NORTHERN ELEPHANT SEAL FEMALES AND THEIR YOUNG. *Behaviour* 43(1-4): 121-156, 14 figs. 1972. In English with French summ. *WR 148: 61*
[Univ. Calif., Santa Cruz.]

Lønø, Odd. THE CATCH OF WALRUS *(ODOBENUS ROSMARUS)* IN THE AREAS OF SVALBARD, NOVAJA, ZEMLJA, AND FRANZ JOSEF LAND. *Nor. Polarinst. Arbok* 1970: 199-212. 1972. [From J. Mammal. 53(3, suppl.), 1972. With Russian summ.] *WR 148: 61*

Margolis, L., and M. D. Dailey. REVISED ANNOTATED LIST OF PARASITES FROM SEA MAMMALS CAUGHT OFF THE WEST COAST OF NORTH AMERICA. *NOAA (Natl. Ocean Atmos. Adm.) Tech. Rep. NMFS (Natl. Mar. Fish. Serv.) SSRF Spec. Sci. Rep. Fish.* no. 647. p. 1-23. 1972. [From Biol. Abstr. 54(12), 1972.] *WR 148: 61*
[Fish. Res. Board Canada, Nanaimo, British Columbia, Canada.]

Odell, Daniel Keith. STUDIES ON THE BIOLOGY OF THE CALIFORNIA SEA LION AND THE NORTHERN ELEPHANT SEAL ON SAN NICOLAS ISLAND, CALIFORNIA. *Ph.D. thesis, Univ. Calif.* (Los Angeles). 183 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973.] *WR 148: 61*
"Zalophus californianus."

MAMMALS--MARINE--Continued

Perrin, William F., and John R. Hunter. ESCAPE BEHAVIOR OF THE HAWAIIAN SPINNER PORPOISE *(STENELLA CF S. LONGIROSTRIS). U.S. Natl. Mar. Fish.Serv. Fish. Bull.* 70(1): 49-60, illus. 1972. [From Biol. Abstr. 54(7), 1972.] *WR 148: 62*
[Natl. Mar. Fish. Fish. Serv., Southwest Fish. Cent., La Jolla, Calif.]

Scheffer, Victor B. THE WEIGHT OF THE STELLER SEA COW. *J. Mammal.* 53(4): 912-914. Nov. 1972. *WR 148: 62*
[14806 SE 54th St., Bellevue, Wash.]

Stoddart, D. R. PINNIPEDS OR SIRENIANS AT WESTERN INDIAN OCEAN ISLANDS? *J. Zool.* (London) 167(2): 207-217, illus. 1972. [From Biol. Abstr. 54(12), 1972.] *WR 148: 62*
[Cambridge Univ., Cambridge, England.] It is shown that many of the reef islands of the tropical western Indian Ocean were formerly inhabited by seals, of undetermined species and now extinct, and that some of the early references to dugongs in fact concerned seals.

Voisin, J.-F. NOTES ON THE BEHAVIOUR OF THE KILLER WHALE, *ORCINUS ORCA* (L.). *Norw. J. Zool.* 20(1): 93-96, illus. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 62*
[Mus. Natl. Hist. Nat., 57 rue Cuvier, Paris, France.]

Wada, Kazuo. [SOME COMMENTS ON THE MIGRATION OF NORTHERN FUR SEALS.] *Bull. Tokai Reg. Fish. Res. Lab.* 67: 47-80. Sept. 1971. [From J. Mammal. 53(3, suppl.), 1972. In Japanese with English summ.] *WR 148: 62*

OTHER MAMMALS

Aitken, Peter F. *PLANIGALE TENUIROSTRIS* TROUGHTON, THE NARROW-NOSED PLANIGALE, AN ADDITION TO THE MAMMAL FAUNA OF SOUTH AUSTRALIA. *S. Australian Nat.* 46(2): 18. Dec. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 62*

Boswall, Jeffery. VICUÑA IN ARGENTINA. *Oryx* 11(6): 449-453, illus. Sept. 1972. *WR 148: 62*
"There could well be several hundred, perhaps a thousand [Vicuñas]."

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Feldman, Donald B., John A. Moore, Martha W. Harris, and James L. Self. CHARACTERISTICS OF COMMON HELMINTHS OF THE VIRGINIA OPOSSUM *(DIDELPHIS VIRGINIANA)* FROM NORTH CAROLINA. *Lab. Anim. Sci.* 22(2): 183-189, illus. 1972. [From Biol. Abstr. 54(8), 1972.] *WR 148: 62*
[Natl. Inst. Health, Triangle Park, N.C.]

Fossey, Dian. VOCALIZATIONS OF THE MOUNTAIN GORILLA *(GORILLA GORILLA BERINGEI). Anim. Behav.* 20(1): 36-53, 13 figs. Feb. 1972. *WR 148: 62*
[Natl. Geo. Soc., Madingley, Cambridge, England.] Abstract: On the basis of 2255 hr contact with free-living gorilla, and considerable observation of two captive infants, sixteen types of vocalization are described. Some of these could be grouped to give twelve basic categories. For each of the sixteen types data are presented on the frequency with which it is given by each age/sex class, the contexts in which it is given, the nature of the responses elicited from the various age/sex classes, etc.

Halloran, Art. THE HAWAIIAN LONGHORN STORY. *Petroglyph Press, Ltd.* (Hilo, Hawaii). 22 p., illus. 1972. Price $1.75. *WR 148: 62*
[Petroglyph Press, Ltd., 211 Kinoole St., Hilo, Hawaii.]

OTHER MAMMALS--Continued

Hanks, J. ASPECTS OF DENTITION OF THE AFRICAN ELEPHANT, *LOXODONTA AFRICANA*. *Arnoldia* 5(36): 1-8, 5 figs. 30 Aug. 1972. *WR 148: 63*
[Univ. Rhodesia, Salisbury, Rhodesia.]

Peters, Jean M., René Maier, Betty E. Hawthorne, and Clara A. Storvick. COMPOSITION AND NUTRIENT CONTENT OF ELEPHANT *(ELEPHAS MAXIMUS)* MILK. *J. Mammal.* 53(4): 717-724. Nov. 1972. *WR 148: 63*
[Oreg. State Univ., Corvallis.]

Prescott, C. W. BLACKLEG IN AN ELEPHANT. *Vet. Rec.* 88(23): 598-599. 5 June 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 63*

Roberts, T. J., and J. Vielliard. COMMENTAIRES SUR LE GRAND PANGOLIN INDIEN *MANIS CRASSICAUDATA*. [COMMENTS ON THE GREAT INDIAN PANGOLIN *MANIS CRASSICAUDATA*.] *Mammalia* 35(4): 610-613, illus. 1971. [From Biol. Abstr. 54(8), 1972. In French with English summ.] *WR 148: 63*
[R.C.A. Ltd., Khanewal, Pakistan.] Biogeography, taxonomy and external characters are discussed.

Sikes, Sylvia K. THE NATURAL HISTORY OF THE AFRICAN ELEPHANT. *Am. Elsevier Publ. Co., Inc.* (New York). xxv + 397 p., 54 figs. + 115 photos and 4 color plates, 6.5 x 9.75 in. 1971. Price $30.00. *WR 148: 63*
"This book has been written to meet the need for an up-to-date handbook on the species which has long been felt by field workers (hunters, game wardens, park administrators and research workers) as well as the increasing numbers of graduate students in zoology, animal ecology and wildlife management. The first part of the book is technical, dealing with the functional anatomy and health of the African Elephant. Part two treats the ecology (the natural environment) and the ethology (natural behavior characteristics) of the species. The final section of the book is concerned with the more controversial issues of man's exploitation of the African Elephant past and present."

Yalden, D. W., and G. R. Hosey. FERAL WALLABIES IN THE PEAK DISTRICT. *J. Zool.* (London) 165(4): 513-520. Dec. 1971. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 63*

BIRDS--GENERAL

Banks, Richard C., and Roger B. Clapp. BIRDS IMPORTED INTO THE UNITED STATES IN 1969. *U.S. Fish Wildl. Serv. Spec. Sci. Rep. Wildl.* no. 148. ii + 99 p. Apr. 1972. For sale by Supt. Documents, GPO, Washington, D.C., at $1.00. *WR 148: 63*
Abstract: Birds imported into the United States in 1969 are tabulated by species and the numbers are compared to those for 1968. Totals for 1969 are considerably larger than for the preceding year, the most notable increases being in estrildid finches and in hawks and owls. Over 640,000 individuals representing more than 800 species were imported in 1969.

Cracraft, Joel. CONTINENTAL DRIFT AND AUSTRALIAN AVIAN BIOGEOGRAPHY. *Emu* 72 (4): 171-174. Oct. 1972. *WR 148: 63*
[Univ. Ill., Chicago.]

Dol'nik, V. R. [AMOUNT OF PRODUCTIVE ENERGY OF BIRDS DURING DIFFERENT PHASES OF THE YEARLY CYCLE.] *Ekologiya* 2(5): 89-91. 1971. [From Biol. Abstr. 54(12), 1972. In Russian.] *WR 148: 63*
[Zool. Inst., Acad. Sci. USSR, Leningrad, USSR.]

Dwernychuk, L. W., and D. A. Boag. DUCKS NESTING IN ASSOCIATION WITH GULLS--AN ECOLOGICAL TRAP? *Canadian J. Zool.* 50(5): 559-563. 1972. [From Biol. Abstr. 54(10), 1972. In English with French summ.] *WR 148: 63*
[Univ. Saskatchewan, Regina, Saskatchewan, Canada.]

Dwyer, Peter D. FEATURE, PATCH AND REFUGE AREA: SOME INFLUENCES ON DIVERSITY OF BIRD SPECIES. *Emu* 72(4): 149-156, 1 fig. Oct. 1972. *WR 148: 64*
[Univ. Queensland, St. Lucia, Queensland, Australia.] "This paper approaches the question of diversity of bird species...and examines some influences of conspicuous features of the environment on the avifauna of the surrounding area. My concern with these features is not with their possible significance as ecosystems in miniature but with their role as part of much larger, perhaps limitless, ecosystems."

Feduccia, J. A. NATURAL HISTORY OF THE AVIAN FAMILIES DENDROCOLAPTIDAE (WOODHEWERS) AND FURNARIIDAE (OVENBIRDS). *J. Grad. Res. Cent. South. Methodist Univ.* (Dallas) 38: 1-26. 1970. [From Auk 98(4), 1972.] *WR 148: 64*

Harrison, C. J. O. A RE-EXAMINATION OF THE CHESTNUT-SHOULDERED WREN COMPLEX OF AUSTRALIA. *Bull. British Mus. (Nat. Hist.) Zool.* 21(8): 313-328, illus. 1972. [From Biol. Abstr. 54(7), 1972.] *WR 148: 64*
[British Mus. (Nat. Hist.), Cromwell Rd., London, England.] The chestnut-shouldered wren complex within the genus *Malurus* is re-examined, using recently collected material. Seven forms are recognized: *M. elegans, M. pulcherrimus, M. lamberti, M. assimilis* (including *M. masterси* and *M. bernieri*), *M. rogersi, M. dulcis,* and *M. amabilis.*

Hussell, David J. T. FACTORS AFFECTING CLUTCH SIZE IN ARCTIC PASSERINES. *Ecol. Monog.* 42(3): 317-364, 18 figs. Summer 1972. *WR 148: 64*
[Am. Mus. Nat. Hist., New York, N.Y.] A modified version of a Ph.D. thesis [see *WR 143: 52*]. Topics covered include geographic variation in breeding seasons, clutch size, degree of asynchrony and success in hatching, growth rates of young, activities of adults attending nestlings, annual and seasonal variation in clutch size, timing of the breeding season in relation to food available for the young, effect of brood size on rate of growth of the young, and condition of the adults relative to brood size. Current ideas on determination of clutch size are examined and their significance in population ecology and evolutionary theory evaluated.--Courtesy/ Paul A. Stewart.

Immelmann, K. ENVIRONMENTAL FACTORS CONTROLLING REPRODUCTION IN AFRICAN AND AUSTRALIAN BIRDS -- A COMPARISON. *Ostrich* suppl. no. 8. p. 193-204. 1971. [From Auk 89(4), 1972.] *WR 148: 64*

Irwin, M. P. Stuart. AN APPROACH TO SUBSPECIES IN ORNITHOLOGY. *Rhodesia Sci. News* 6(12): 340-341, 1 fig. Dec. 1972. *WR 148: 64*
[Natl. Mus. Rhodesia, Bulawayo, Rhodesia.]

James, H. W. CATALOGUE OF THE BIRDS EGGS IN THE COLLECTION OF THE NATIONAL MUSEMS OF RHODESIA. *Queen Victoria Mus. Spec. Publ.* x + 237 p., 1 fig. 1970. *WR 148: 64*
[Queen Victoria Mus., Salisbury, Rhodesia.]

Kurochkin, E. N. [BASIC PROBLEMS IN THE STUDY OF FOSSIL BIRDS.] *Zool. Pozvonochnikh* 1970: 116-151, 7 figs. 1971. In Russian. *WR 148: 64*

Lacatusu, Matilda, Irina Teodorescu, Constanta Tudor, and Dimitrie Radu. CONTRIBUTII LA CUNOASTEREA HRANEI LA UNELE PASARI DIN DELTA DUNARII. [CONTRIBUTIONS TO THE STUDY OF THE DIET OF CERTAIN BIRDS OF THE DANUBE DELTA.] *An. Univ. Bucur. Biol. Anim.* 20. p. 59-75, illus. 1971. [From Biol. Abstr. 54(9), 1972. In Romanian with French and Russian summ.] *WR 148: 64*
[Univ. Bucharest, Bucharest, Romania.]

Mal'chevskii, A. S., E. N. Golovanova, and Yu. B. Pukinskii. [BIRDS--BEFORE MICROPHONE AND CAMERA.] *Isdat. Leningrad. Univ.* 207 p., 191 figs. + 1 recording. 1972. In Russian. Price 2 rubles 66 kopecks. *WR 148: 64*

Meyerriecks, Andrew J. MAN AND BIRDS / EVOLUTION AND BEHAVIOR. *Bobbs-Merrill Co., Inc.* (Indianapolis and New York). xi + 209 p., 48 figs., 5.5 x 8.25 in. 1972. Price $6.95. *WR 148: 65*

Contents: Some Darwinism; Potential for evolution in bird diversity; Isolation and islands; Isolating mechanisms in birds; Other islands and continental bird evolution; Territory; Bird communication; and Brood parasitism.

Milovanova, G. A. [BIOLOGY OF THE CHAFFINCH, TREE PIPIT, REDSTART AND NUTHATCH IN THE PRIOKSKO-TERRASNYI GAME RESERVE.] *Trudy Prioksko-Terrasnogo Gos. Zapovednika* 5. p. 110-126. 1971. [From Biol. Abstr. 54(9), 1972, from Ref. Zh. Biol., 1971, no. 7I484.] *WR 148: 65*

Murton, R. K. MAN AND BIRDS. *Collins* (London). xx + 364 p., 39 figs + 35 pls., 6 x 8.75 in. 1971. Price £2.50. *WR 148: 65*

Contents: Men and birds; Ecological considerations; Some predators and their prey; Birds and forests; Birds on the farm: The community; Birds on the farm: The animal feeders; Birds on the farm: The seed-eaters; Birds on the farm: The grazers; Bird problems in horticulture; Birds and the fisherman; Birds and industrial man; and Wild life management.

Poznanin, L. P. [ON THE FUNDAMENTAL TRENDS IN THE DEVELOPMENT OF CONTEMPORARY ORNITHOLOGY.] *Zool. Pozvonochnikh* 1969: 5-14, 3 figs. 1971. In Russian. *WR 148: 65*

Quickelberge, C. D. THE ROLE PLAYED BY BIRDS IN THE LIVES OF SOUTHERN NGUNI TRIBESMEN. *Ostrich* suppl. no. 8. p. 487-495. 1971. [From Auk 89(4), 1972.] *WR 148: 65*

Rowan, M. K. THE FOODS OF SOUTH AFRICAN BIRDS. *Ostrich* suppl. no. 8. p. 343-356. 1971. [From Auk 89(4), 1972.] *WR 148: 65*

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Contents: *Results of bird banding carried out by the Zagreb Ornithological Institute in 1948 (6th report)*, Konstantin Igalffy; *Data on the geographical distribution, ecology and systematics of some birds in Serbia*, Sergije Matvejev; *Invasion of the rose-colored starling*, Pastor roseus *(L.)*, *in Hungary*, Imre Patkai; *Ten-year study of waxwing* (Bombycilla garrulus) *(L.). Invasions in Hungary and in the Carpathian Basin 1938/1939--1947/1948*, András Keve; *Unusual feather ornament of the waxwing*, Bombycilla g. garrulus *(L.)*, Henrik Dorning; *The birds of Goreki Kotar (with taxonomic notes)*, Dragutin Rucner; *Some contributions to the ornithofauna of the Yugoslav littoral*, Stanko L. Karaman; *Ornithofauna of the Skopska Kotlina Basin*, Stanko L. Karaman; *From an ornithological diary*, Ivan Tutman; *Contributions to the ornithofauna of the upland region between the Sava and Drava in Croatia. Birds of the mountain Medvednica*, Renata Kroneisl; and *Stomach contents of some birds*, Ivan Tutman.

Rucner, Renata, editor. LARUS XII-XIII / 1958-1959. *Translated and published for the Smithsonian Institution and the National Science Foundation, Washington, D.C., by the Nolit Publishing House, Belgrade, Yugoslavia.* TT 70-56077. 224 p. 1972. Serbo-Croatian original published by Institute of Ornithology, Zagreb, Yugoslavia, in 1960. [Translation available from U.S. Dep. Commerce, National Technical Information Service, Springfield, Va.] *WR 148: 65*

Contents: *Bird banding in 1957 and 1958. 1. Results of banding by the Ornithological Institute, Department of the Zoological Museum, Zagreb, 12th report.* -- *2. Foreign recoveries in Yugoslavia, 8th report*, Renata Kroneisl-Rucner; *Observations of the red-rumped swallow*, Hirundo daurica, *in Montenegro*, Paul Géroudet; *On the occurrence of the species* Motacilla flava *L. in Yugoslavia with*

special reference to the subspecies Motacilla flava cinereocapilla *Savi*, Renata Kroneisl-Rucner; *Observation of the waxwing's* (Bombycilla garrulus) *nutrition in captivity*, Antun Cvitanić; *Seasonal specialization in the feeding patterns of the Syrian woodpecker*, Dendrocopos syriacus, *in the Kruševac area (Župa)*, Aleksandar Stefanović; *Contribution to the study of the birds of the environs of Split*, Mladen Krpan; *Some observations on the birds in Koviljski rit marsh*, Milorad Marčetić; *List of birds observed on a trip through Yugoslavia*, Robert Hainard; *Ornithological observations on a trip through Yugoslavia*, Hartmut Ern; and *Contribution to the study of the birds of Albania (Shqipenija) and certain adjacent Yugoslav regions*, Emil Kattinger.

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Contents: *Bird banding in 1959: 1. Results of bird banding carried out by the Ornithology Department of the Zagreb University Biology Institute, 13th report, 2. Foreign recoveries in Yugoslavia, 9th report*, Renata Rucner-Kroneisl; *On the taxonomic position of the little owl*, Athene noctua *(Scop.) of southeast Europe*, A. Keve, I. Kohl, F. Matoušek, A. Mošansky, and R. Rucner-Kroneisl; *White stork*, Ciconia ciconia, *in Macedonia*, Radivoje Jovetić; *The ornithofauna of Kopački rit and its environs, Baranja*, Dragutin Rucner; *Further notes on the Syrian woodpecker*, Dendrocopos syriacus balcanicus, *from the closer environs of Gunaroš*, László Szlivka; *Periodic nesting of the wheatear*, Oenanthe oenanthe, *in the Bačka Topola area*, László Szlivka; *Some data for an ornithology of Vojvodina: 1. Scops owl*, Otus scops, *nester in Vojvodina; 2. A colony of white storks*, Ciconia ciconia, *near Kovilj in 1959 and 1960*, Milorad Marčetić; *Capercaillie*, Tetrao urogallus, *nester of Kosovo and Metohija*, Dušan Andrejević; *Characters of specimens of waxwing*, Bombycilla garrulus, *collected in Croatia, Slovenia, Serbia and Vojvodina*, Antun Cvitanić; *Some ornithological data from the islet of Sv. Andrija off Dubrovnik*, Ivan Tutman; *Notes on the behavior of birds*, Mladen Krpan; and *Some observations on the feeding habits of birds in the environs of Dubrovnik*, Ovan Tutman.

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Contents: *Bird banding in 1960. 1. Results of the bird banding carried out by the Ornithological Department of the Biology Institute of Zagreb University, 14th report; 2. Foreign recoveries made in Yugoslavia, 9th report*, Ljubica Štromar; *The life of the white stork*, Ciconia ciconia, *in Macedonia*, Radivoje Jovetić; *A study of the avifauna of Obedska Bara and its environs. A contribution to the study of the avifauna of Vojvodina*, László Szlivka; *A supplement to the study of the avifauna of the lower Neretva*, Dragutin Rucner; *Great spotted cuckoo*, Clamator glandarius, *in Hercegovina*, Jože Jošt; *Pine bunting*, Emberiza leucocephala, *in Yugoslavia*, Antun Cvitanić; *A ruddy shelduck*, Casarca ferruginea, *in Vojvodina*, Jozsef Mikuska; *Remarks on the vocal performance of some Bulgarian birds*, František Balát; *The voice of* Sylvia sarda, Hans Stadler; *Springtime ornithologic observations on the island of Krk*, Helmut Dehmut; *Ornithological notes from middle Dalmatia*, Antun Cvitanić; *Ornithological notes from the environs of Zavala*, Ivan Tutman; *Contribution to the study of hybrids of the family* Anatidae *found in Yugoslavia*, Dragutin Rucner; *Bill anomalies observed in the Split area*, Antun Cvitanić; and *Contribution to the study of the biology of the jay*, Garrulus glandarius, *in the Banja Luka area*, Dragutin Samardžić.

BIRDS--GENERAL--Continued

Tricot, J. SIXIEME RAPPORT DE LA COMMISSION D'HOMOLOGATION AVES. [SIXTH REPORT OF THE AVES VALIDATION COMMISSION.] *Aves* 8(6): 167-189, illus. 1971. [From Biol. Abstr. 54(10), 1972. In French.] *WR 148: 67*
[Rue Haute 40, 1330-Rixensart, Belgium.] Addendum for the years 1966, 1968, 1969, 1970 and 1971 to the list of ornithological observations validated by the Aves Validation Commission are listed.

BIRDS--TECHNIQUES

Braun, Howard W., and Merit B. Skaggs. WARBLER CATCHING IN WATER DRIP TRAPS. *Inland Bird Banding News* 44(4): 123-132, illus. July-Aug. 1972. *WR 148: 67*
[215 53rd St., N.E., North Industry, Ohio.] The water-drip trap herein described is a multi-purpose trap and can be used all year round. The authors have taken about 120 spp. of birds in it, including 33 warblers.--From summ. Courtesy/ Paul A. Stewart.

Ely, Charles A. THE HAYS, KANSAS MIST-NETTING STATION. *Inland Bird Banding News* 44(4): 133-135. July-Aug. 1972. *WR 148: 67*
[Fort Hays Kans. State Coll., Hays.] Banding of more than 22,000 birds from 1966 to 1972 through operation of mist nets is reported.--Courtesy/ Paul A. Stewart.

George, William G. AGE DETERMINATION OF HAIRY AND DOWNY WOODPECKERS IN EASTERN NORTH AMERICA. *Bird-Banding* 43(2): 128-135, 1 fig. Apr. 1972. *WR 148: 67*
[Southern Ill. Univ., Carbondale.] With aging criteria based on differences in wing molt and length of the outermost primary.--Courtesy/ Paul A. Stewart.

Johnson, James C. 1970 RUBY-THROATED HUMMINGBIRD ACTIVITIES. *Inland Bird Banding News* 44(6): 211-224. Nov.-Dec. 1972. *WR 148: 67*
A device for holding the ruby-throated hummingbirds for banding is described in this general account of banding activities.

Kampen, D. van. SUCCESSFUL CLEANING OF OILED BIRDS IN HOLLAND. *Mar. Pollut. Bull.* 2(9): 140-142. 1971. [From Bird-Banding 43(3), 1972.] *WR 148: 67*

Kittle, Earl L. KETAMINE HYDROCHLORIDE AS AN ANESTHETIC FOR BIRDS. *Raptor Res.* 6(2): 49-50. Summer 1972. *WR 148: 67*
[Route 3, Plain City, Ohio.]

MacArthur, Robert, and Duncan MacArthur. EFFICIENCY AND PREFERENCE AT A BIRD FEEDER. *J. Ariz. Acad. Sci.* 7(1): 3-5. 1972. [From Biol. Abstr. 54(12), 1972.] *WR 148: 67*
[Princeton Univ., Princeton, N.J.]

Mosher, John I., and Stephen Lane. A METHOD OF DETERMINING THE SEX OF CAPTURED BLACK-CAPPED CHICKADEES. *Bird-Banding* 43(2): 139-140, 2 figs. Apr. 1972. *WR 148: 67*
[State Univ. Coll., Brockport, N.Y.] Black-capped chickadees *(Parus atricapillus)* were sexed by differences in the shape and extent of the black cap and bib.--Courtesy/ Paul A. Stewart.

Niles, David M. DETERMINING AGE AND SEX OF PURPLE MARTINS. *Bird-Banding* 43 (2): 137-138. Apr. 1972. *WR 148: 67*
[Univ. Kans., Lawrence.] Describes plumage characteristics useful for aging and sexing purple martins *(Progne subis)*.--Courtesy/ Paul A. Stewart.

Olyphant, Jane C. A METHOD FOR AGING FEMALE AMERICAN GOLDFINCHES. *Bird-Banding* 43(3): 173-181, 4 figs. July 1972. *WR 148: 67*
[4000 Hidden Bay Rd., St. Paul, Minn.] Age-related differences in wing color that permit identification of age and sex of *Spinus tristis* are presented.--Courtesy/ Paul A. Stewart.

BIRDS--TECHNIQUES--Continued

Ortiz-Crespo, Fernando I. A NEW METHOD TO SEPARATE IMMATURE AND ADULT HUMMINGBIRDS. *Auk* 89(4): 851-857, 1 fig. Oct. 1972. *WR 148: 68*
[Univ. Calif., Berkeley.] The lateral surfaces of the culmen of the immatures are ridged by minute oblique corrugations; adults have no such corrugations.--Courtesy/ Paul A. Stewart.

Parker, James W. A MIRROR AND POLE DEVICE FOR EXAMINING HIGH NESTS. *Bird-Banding* 43(3): 216-218, 2 figs. July 1972. *WR 148: 68*
[Univ. Kans., Lawrence.] The device was used to determine the contents of large nests as much as 50 feet above ground.--Courtesy/ Paul A. Stewart.

Robins, Jerome D. AN INEXPENSIVE CYLINDRICAL BLIND FOR OBSERVING AND PHOTOGRAPHING BIRDS. *Bird-Banding* 43(3): 218-219. July 1972. *WR 148: 68*
[Univ. Kans., Lawrence.] Consists of a frame made of welded wire fencing covered with burlap or waterproof material.--Courtesy/ Paul A. Stewart.

Wood, D. L., and D. S. Wood. NUMERICAL COLOR SPECIFICATION FOR BIRD IDENTIFICATION: IRIS COLOR AND AGE IN FALL MIGRANTS. *Bird-Banding* 43(3): 182-190, 8 figs. July 1972. *WR 148: 68*
[46 Fox Run, Murray Hill, N.J.] It is shown that Munsell soil color charts are useful in determining the iris color of birds.--Courtesy/ Paul A. Stewart.

BIRDS--MORPHOLOGY & PHYSIOLOGY

Clark, George A., Jr. PASSERINE FOOT-SCUTES. *Auk* 89(3): 549-558, 2 figs. July 1972. *WR 148: 68*
[Univ. Conn., Storrs.] Individual differences and bilateral asymmetry are characteristic in the arrangement of scutes and papillae on the feet of many avian species. Despite the individual variation, scutellation of the feet appears to be potentially useful in systematics.--Courtesy/ Paul A. Stewart.

Davydov, A., and J. Keskpaik. [THE WINTER ENERGY METABOLISM IN THE SONG THRUSH AND BLACKBIRD.] *Commun. Baltic Comm. Study Bird Migration* 7: 164-170. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 68*
A comparison between *Turdus philomelos*, a long-range migrant, and *T. merula* which only migrates short distances.

Dzerzhinskii, F. Ya. [BIOMECHANICAL ANALYSIS OF MAXILLARY APPARATUS OF BIRDS.] *Izdat. Mosk. Univ.* 155 p., 35 figs. 1972. In Russian. Price 98 kopecks. *WR 148: 68*

Dzerzhinskii, F. Ya. [THE MAXILLARY APPARATUS OF THE BIRD.] *Zool. Pozvonochnikh* 1969: 16-60, 16 figs. 1971. In Russian. *WR 148: 68*

Feduccia, Alan. VARIATION IN THE POSTERIOR BORDER OF THE STERNUM IN SOME TREE-TRUNK FORAGING BIRDS. *Wilson Bull.* 84(3): 315-328, 5 figs. Sept. 1972. *WR 148: 68*
[Univ. N.C., Chapel Hill.] Courtesy/ Paul A. Stewart.

Fry, C. H. MIGRATION, MOULT AND WEIGHTS OF BIRDS IN NORTHERN GUINEA SAVANNA IN NIGERIA AND GHANA. *Ostrich* suppl. no. 8. p. 239-263. 1971. [From Auk 89 (4), 1972.] *WR 148: 68*

Goodpasture, Katherine A. A RARELY REPORTED SEX-PLUMAGE ASSOCIATION IN A ROSE-BREASTED GROSBEAK. *Bird-Banding* 43(2): 136. Apr. 1972. *WR 148: 68*
[3407 Hopkins Lane, Nashville, Tenn.] *"Pheucticus ludovicianus."*--Courtesy/ Paul A. Stewart.

Grant, P. R. VARIATION IN THE TARSUS LENGTH OF BIRDS IN ISLAND AND MAINLAND REGIONS. *Evolution* 25(4): 599-614. 1971. [From Bird-Banding 43(2), 1972.] *WR 148: 68*

Hilsabeck, Jack L. WING CHORD MEASUREMENTS IN TREE SPARROWS. *Inland Bird Banding News* 44(6): 225-227. Nov.-Dec. 1972. *WR 148: 69*
[Box 62, Rosendale, Mo.] *"Spizella arborea."*

Hoover, Ernie. HAIRY WOODPECKER WITH DEFORMED EYE. *Inland Bird Banding News* 44(3): 107. May-June 1972. *WR 148: 69*
[1044 Webster St. N.W., Grand Rapids, Mich.] A hairy woodpecker *(Dendrocopos villosus)* lived three years in nature with only one functional eye.--Courtesy/ Paul A. Stewart.

Ilichev, V. [ADAPTATION TO FUNCTION AND EVOLUTION IN THE AVIAN ACOUSTIC SYSTEM.] *Biol. Nauki* 1971(12): 19-24. 1971. [From Bird-Banding 43(2), 1972. In Russian.] *WR 148: 69*

Karr, J. R., and R. R. Roth. VEGETATION STRUCTURE AND AVIAN DIVERSITY IN SEVERAL NEW WORLD AREAS. *Am. Nat.* 105: 423-435. 1971. [From Ibis 115(1), 1973.] *WR 148: 69*

Knowles, Richard N. WINTER WEIGHTS OF SLATE-COLORED JUNCOS: A COMPARISON OF FIELD STUDIES AT TWO LATITUDES. *Bird-Banding* 43(2): 114-117, 1 fig. Apr. 1972. *WR 148: 69*
[P.O. Box 302, R.D. 1, Hockessin, Del.] Slate-colored juncos *(Junco hyemalis)* experiencing a more rapid rate of change in day length tend to show larger changes in their weights than juncos experiencing slower rates of change in day length.--Courtesy/ Paul A. Stewart.

Maroney, D. PLUMAGE CHANGES IN THE SUPERB LYREBIRD. *Emu* 72: 17-21. 1972. [From Auk 89(4), 1972.] *WR 148: 69*
"Menura novaehollandiae."

Neifel'dt, I. A. [REPRODUCTION AND MOLTING OF *HEMICHELIDON GRISEISTICTA* SWINH. (MUSCICAPINAE, AVES).] *Doklady Akad. Nauk SSSR Ser. Biol.* 200(2): 485-487. 1971. [From Biol. Abstr. 54(9), 1972. In Russian.] *WR 148: 69*
[Zool. Inst. Acad. Sci. USSR, Leningrad, USSR.]

Noskov, G. A., and A. R. Gaginskaya. [METHODS OF DESCRIBING THE STATE OF MOULTING IN BIRDS.] *Commun. Baltic Comm. Study Bird Migration* 7: 154-163. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 69*

Panchori, G. N. MECHANISM OF THE TAIL-FAN IN THE PEACOCK, *PAVO CRISTATUS* LINN. *Ann. Zool.* (Agra) 6(3): 109-140, illus. 1970. [From Biol. Abstr. 54(12), 1972.] *WR 148: 69*
[Inst. Zool., Agra, Uttar Pradesh, India.]

Rol'nik, V. V. [PHYSIOLOGY OF BIRD EMBRYOLOGY.] *Zool. Posvonochnikh* 1970: 82-115. 1971. In Russian. *WR 148: 69*

Shilov, I. A. [GENERAL PROBLEMS OF THE ECOLOGICAL PHYSIOLOGY OF BIRDS.] *Zool. Posvonochnikh* 1970: 7-51. 1971. In Russian. *WR 148: 69*

Skar, H. J., A. Hagen, and E. Ostbye. CALORIC VALUES, WEIGHT, ASH AND WATER CONTENT OF THE BODY OF THE MEADOW PIPIT *(ANTHUS PRATENSIS* (L.)). *Norw. J. Zool.* 20(1): 51-59, illus. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 69*
[Univ. Oslo, Blindern, Oslo, Norway.]

Yablokov, A. V., and A. V. Valetskii. [VARIABILITY OF FEATHER STRUCTURE AND EGG COLORATION IN SOME BIRDS.] *Zool. Zh.* 51(2): 248-258, illus. 1972. [From Biol. Abstr. 54(10), 1972. In Russian with English summ.] *WR 148: 69*
[Inst. Dev. Biol., Acad. Sci. USSR, Moscow, USSR.] The number of barbs and barbules in different parts of wing, tail and tectorial feathers in 5 spp. of the Laridae family, pigeon and willow grouse was determined.

BIRDS--BEHAVIOR

Allaire, Pierre N. FIELD SPARROW USES ABANDONED NEST FOR AUGUST BROOD. *Auk* 89(4): 886. Oct. 1972. *WR 148: 70*
[Stephen F. Austin State Univ., Nacogdoches, Tex.] *"Spizella pusilla."*--Courtesy/ Paul A. Stewart.

Baptista, Luis Felipe. COWBIRD PARASITISM ON THE WHITE-CROWNED SPARROW AND WREN-TIT IN THE SAN FRANCISCO BAY AREA. *Auk* 89(4): 879-882. Oct. 1972. *WR 148: 70*
[Univ. Calif., Berkeley.] Additional observations on parasitism of *Zonotrichia leucophrys nuttalli* and *Chamaea fasciata* by *Molothrus ater*.--Courtesy/ Paul A. Stewart.

Bettmann, Helmut. ZUR VERHALTENSWEISE DES WENDEHALSES *(YNX TORQUILLA)*. [ON THE BEHAVIOR OF THE WRYNECK *JYNX TORQUILLA*.] *Ornithol. Mitt.* 24(10): 214-215. Oct. 1972. In German. *WR 148: 70*
[Pestalozzistrasse, Rheydt, Germany.]

Binford, L. C. ROADRUNNER CAPTURES ORCHARD ORIOLE IN CALIFORNIA. *Calif. Birds* 2: 139. 1971. [From Auk 89(4), 1972.] *WR 148: 70*

Borrett, R. P., and K. J. Wilson. COMPARATIVE FEEDING ECOLOGY OF *ANTHUS NOVAESEELANDIAE* AND *ANTHUS VAALENSIS* IN RHODESIA. *Ostrich* suppl. no. 8. p. 333-341. 1971. [From Auk 89(4), 1972.] *WR 148: 70*

Boudreau, Gordon W. FACTORS RELATING TO ALARM STIMULI IN BIRD CONTROL. *Proc. 5th Vertebr. Pest Conf.* p. 121-123. 1972. *WR 148: 70*
[Wildl. Technol., Paicines, Calif.]

Bruen, Katri, and D. W. Dunham. EFFECT OF A CONSPECIFIC ON NEST BUILDING LOCATION IN THE ZEBRA FINCH. *Auk* 89(4): 858-862, 1 fig. Oct. 1972. *WR 148: 70*
[Wright State Univ., Dayton, Ohio.] In zebra finches *(Poephila guttata)*, an open cup was preferred to a closed basket and proximity to a conspecific was preferred over a more distant location.--Courtesy/ Paul A. Stewart.

Buskirk, William H., George V. N. Powell, James F. Wittenberger, Ruth E. Buskirk, and Thomas U. Powell. INTERSPECIFIC BIRD FLOCKS IN TROPICAL HIGHLAND PANAMA. *Auk* 89(3): 612-624, 5 figs. July 1972. *WR 148: 70*
[Univ. Calif., Davis.] Small local flocks of bush-tanagers *(Chlorospingus ophthalmicus)* acted as nucleus components in interspecific foraging flocks. Bush-tanagers roosted singly or in l ose groups. The interspecific foraging flocks were larger when bush-tanagers were most active and calling most.--Courtesy/ Paul A. Stewart.

Collias, N. E., and E. C. Collias. SOME EXPERIMENTAL STUDIES OF THE BREEDING BIOLOGY OF THE VILLAGE WEAVER *PLOCEUS (TEXTOR) CUCULLATUS* (MÜLLER). *Ostrich* suppl. no. 8. p. 169-177. 1971. [From Auk 89(4), 1972.] *WR 148: 70*

Dol'nik, V. R. [ENERGETICS OF BIRD FLIGHT.] *Zool. Pozvonochnikh* 1970: 52-81, 7 figs. 1971. In Russian. *WR 148: 70*

Dow, Douglas D. THE NEW ZEALAND LONG-TAILED CUCKOO: NEST PARASITE OR PREDATOR? *Emu* 72(4): 179-180. Oct. 1972. *WR 148: 70*
[Univ. Queensland, St. Lucia, Queensland, Australia.] *"Eudynamis taitensis."*

Erskine, A. J., and W. D. McLaren. SAPSUCKER NEST HOLES AND THEIR USE BY OTHER SPECIES. *Canadian Field Nat.* 86(4): 357-361. Oct.-Dec. 1972. *WR 148: 70*
[Canadian Wildl. Serv., Ottawa, Ontario, Canada.]

Evans, S. M. SPECIFIC DISTINCTIVENESS IN THE CALLS OF CORDON BLEUS *(URAEGINTHUS* SPP.; ESTRILDIDAE*)*. *Anim. Behav.* 20(3): 571-579, 5 figs. Aug. 1972. *WR 148: 70*
[Univ. Newcastle Upon Tyne, Newcastle Upon Tyne, England.]

Frederickson, Leigh H., and Milton W. Weller. RESPONSES OF ADELIE PENGUINS TO COLORED EGGS. *Wilson Bull.* 84(3): 309-314, 1 fig. Sept. 1972. *WR 148: 71*
[Univ. Mo., Puxico.] "We infer from these brief experiments that Adelie penguins, *(Pygoscelis papua)* as in many other birds, incubate objects of any color which appear in the nest. The rejection behavior of several highly aggressive males in 1969 and 1970 may reflect lack of development of the incubation drive in males at this stage and longer experience in nesting. The external and internal factors that cause the change from aggressive to incubation behavior remain unknown."--Courtesy/ Paul A. Stewart.

Goldman, Peter Charles. THE VOCAL BEHAVIOR OF THE FIELD SPARROW. *Ph.D. thesis, Ohio State Univ.* 238 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33 (8), 1973.] *WR 148: 71*

Green, C. USE OF TOOL BY ORANGE-WINGED SITTELLA. *Emu* 72(4): 185-186. Oct. 1972. *WR 148: 71*
[Canberra Botanic Gardens, Canberra, Australia.] *"Neositta chrysoptera."*

Haverschmidt, F. MORE NOTES ON INTERSPECIFIC CACIQUE AND OROPENDOLA COLONIES IN SURINAM. *Auk* 89(3): 676. July 1972. *WR 148: 71*
[16 Wolfskuilstraat, Ommen, Netherlands.] Nests of *Cacicus cela* and *C. haemorrhous* were together on the same tree branches.--Courtesy/ Paul A. Stewart.

Jenni, Donald A., and Gerald Collier. POLYANDRY IN THE AMERICAN JACANA *(JACANA SPINOSA).* *Auk* 89(4): 743-765, 4 figs. Oct. 1972. *WR 148: 71*
[Univ. Mont., Missoula.] Polyandry apparently allows the American jacana to produce a maximum number of young on the limited amount of suitable breeding habitat by reducing competition between adults and chicks, thus insuring a maximum amount of food for a large number of chicks.--From summ. Courtesy/ Paul A. Stewart.

Johansson, H. CLUTCH SIZE AND BREEDING SUCCESS IN SOME HOLE-NESTING PASSERINES IN CENTRAL SWEDEN. *Ornis Fenn.* 49: 1-6. 1972. [From Ibis 115(1), 1973.] *WR 148: 71*
Data on *Ficedula hypoleuca, Parus major, P. caeruleus* and *P. palustris.*

Jouventin, P. UN NOUVEAU SYSTEME DE RECONNAISSANCE ACOUSTIQUE CHEZ LES OISEAUX. [A NEW SYSTEM OF ACOUSTIC RECOGNITION AMONG BIRDS.] *Behaviour* 43(1-4): 176-185, 5 figs. + 8 pls. 1972. In French with English summ. *WR 148: 71*
[Mus. Natl. Hist. Nat., Paris, France.]

Kemp, A. C. SOME OBSERVATIONS ON THE SEALED-IN NESTING METHOD OF HORNBILLS (FAMILY: BUCEROTIDAE). *Ostrich* suppl. no. 8. p. 149-155. 1971. [From Auk 89 (4), 1972.] *WR 148: 71*

Kenny, John, and Charles F. Leck. LONGEVITY RECORD FOR AN OVENBIRD: EIGHT YEARS. *Bird-Banding* 43(3): 214. July 1972. *WR 148: 71*
[Rutgers Univ., New Brunswick, N.J.] *"Seiurus aurocapillus."*--Courtesy/ Paul A. Stewart.

Keskpaik, J., and A. Davydov. [DIURNAL RHYTHMS OF LOCOMOTOR ACTIVITY IN THE CHAFFINCH *FRINGILLA COELEBS* AND GREENFINCH *CHLORIS CHLORIS* IN THE WINTERING AREA.] *Commun. Baltic Comm. Study Bird Migration* 7: 171-175. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 71*

Kling, J. W., and Joan Stevenson-Hinde. REINFORCEMENT, EXTINCTION AND SPONTANEOUS RECOVERY OF KEY PECKING IN CHAFFINCHES. *Anim. Behav.* 20(3): 425-429, 3 figs. Aug. 1972. *WR 148: 71*
[Brown Univ., Providence, R.I.] Abstract: Chaffinches *(Fringilla coelebs)* were food deprived and trained to key peck, with each peck producing access to seed. During training, key pecking and eating occurred in bouts, interspersed

with activities such as jumping from perch to perch, hopping over the cage floor, preening and drinking. However, in spite of the continued interpolation of such behaviour between bouts of the operant behaviour, 'typical' extinction results for key pecking were obtained. An analysis of inter-response times (IRTs) for key pecking indicated that the primary effect of extinction was a general decrease in the probability of all IRTs with no systematic changes in the shapes of the IRT distributions.

Kokshayskii, N. V. [ON THE INVESTIGATION OF FLIGHT IN BIRDS.] *Zool. Pozvonochnikh* 1969: 60-93, 12 figs. 1971. In Russian. *WR 148: 72*

Kroymann, Burkhard, and Herman Mattes. DER BESTAND VON RAUCHSCHWALBE *(HIRUNDO RUSTICA)* UND MEHLSCHWALBE *(DELICHON URBICA)* AUF DER HOCHFLAECHE DER SUEDWESTALB. [THE BREEDING STATUS OF THE SWALLOW *(HIRUNDO RUSTICA)* AND THE HOUSE MARTIN *(DELICHON URBICA)* ON THE PLATEAU OF THE SOUTHEAST SUABIAN ALB.] *Ans. Ornithol. Ges. Bayern* 11(1): 64-69. 1972. [From Biol. Abstr. 54(8), 1972. In German with English summ.] *WR 148: 72*
[Nuernberger St. 141, Stuttgart, Germany.]

Leck, Charles F. THE IMPACT OF SOME NORTH AMERICAN MIGRANTS AT FRUITING TREES IN PANAMA. *Auk* 89(4): 842-850, 2 figs. Oct. 1972. *WR 148: 72*
[Rutgers Univ., New Brunswick, N.J.] In the lowlands, migrants were responsible for less than 10% of the total avian-fruit utilization, but at 6,000 feet elevation utilization by these birds increased to 45%. Migrants foraged more actively than residents during rainy periods.--Courtesy/ Paul A. Stewart.

Le Louarn, H. METHODES D'ETUDE DE L'ACTION DES PASSEREAUX SUR DES INSECTES DEFOLIATEURS. [METHODS TO STUDY THE ROLE OF THE PASSERINE BIRDS ON DEFOLIATORS.] *Ann. Zool. Ecol. Anim.* 3(3): 379-386. 1971. [From Biol. Abstr. 54(8), 1972. In French with English summ.] *WR 148: 72*
[Inst. Natl. Rech. Agron., 78 Jouy-en-Josas, France.]

Lewis, R. A., and F. S. Orcott, Jr. SOCIAL BEHAVIOUR AND AVIAN SEXUAL CYCLES. *Scientia* 56: 447-472. 1971. [From Ibis 115(1), 1973.] *WR 148: 72*
Review paper.

Märx, R. TAUBEN AUF DER BEUTELISTE VOM UHU *(BUBO BUBO)*. [DOVES AS PREY OF THE EAGLE OWL *BUBO BUBO*.] *Beitr. Vogelkunde* 18: 81-88. 1972. [From Ibis 115 (1), 1973. In German.] *WR 148: 72*
Based on studies made during a 20-year period.

Mason, C. F., R. E. Stebbings, and G. P. Winn. NOCTULES *(NYCTALUS NOCTULA)* AND STARLINGS *(STURNUS VULGARIS)* COMPETING FOR ROOSTING HOLES. *J. Zool.* 166: 467. 1972. [From Ibis 115(1), 1973.] *WR 148: 72*

Mueller, Helmut C. SUNBATHING IN BIRDS. *Z. Tierpsychol.* 30(3): 253-258. 1972. [From Biol. Abstr. 54(12), 1972. In English with German summ.] *WR 148: 72*
[Univ. N.C., Chapel Hill.]

Patterson, Andrew. NESTING OF CHUCK-WILL'S-WIDOW ON ANDROS ISLAND, BAHAMAS. *Auk* 89(3): 676-677. July 1972. *WR 148: 72*
[Fox Town, Abaco, Bahamas.] *"Caprimulgus carolinensis."*--Courtesy/ Paul A. Stewart.

Pfeifer, Sebastian. AMSEL *(TURDUS MERULA)* BAUT 9 NESTER. [BLACKBIRD *(TURDUS MERULA)* BUILDS NINE NESTS.] *Ornithol. Mitt.* 24(8): 176, 1 fig. Aug. 1972. In German. *WR 148: 72*
[Steinauerstrasse 33, Frankfurt/Main, Germany.] Between the rungs of a horizonally-laid ladder.

Prevett, J. P., B. C. Lieff, and C. D. MacInnes. NEST PARASITISM AT McCONNELL RIVER, N.W.T. *Canadian Field Nat.* 86(4): 369-372, 2 figs. Oct.-Dec. 1972. *WR 148: 73*

[Univ. Western Ontario, London, Ontario, Canada.] "During the course of studies on Canada Geese *(Branta canadensis hutchinsii)* and Blue Geese *(Anser caerulescens)* including both 'Snow' and 'Blue' phases...we have noted several instances where eggs of these two species as well as those of Common Eiders *(Somateria mollissima)* and Willow Ptarmigan *(Lagopus lagopus)* were laid in nests of other species. Casual nest parasitism has been recorded more frequently for waterfowl than any other group of birds."

Prokof'eva, I. V. [FOOD PLASTICITY OF NESTLINGS OF INSECTIVOROUS AND GRAIN EATING BIRDS.] *Biol. Nauki* 14(11): 14-19. 1971. [From Biol. Abstr. 54(9), 1972. In Russian.] *WR 148: 73*

Reller, Ann Willbern. ASPECTS OF BEHAVIORAL ECOLOGY OF RED-HEADED AND RED-BELLIED WOODPECKERS. *Am. Midl. Nat.* 88(2): 270-290, 6 figs. Oct. 1972. *WR 148: 73*

[200 North Smith Rd., Bloomington, Ind.] Abstract: Habitat utilization of red-headed and red-bellied woodpeckers was compared. Since these species are sympatric over much of their range, an examination was made of their segregation and overlap in vertical distribution, and a temporal and spatial analysis was made of their foraging behavior, nesting habits and aggression patterns. Greatest niche segregation was found during the breeding season, particularly in choice of nest site and territory use. During the nonbreeding season, interspecific aggression between the two species increased as they overlapped more in various spatial and behavioral parameters.

Robins, Jerome D. DIFFERENTIAL NICHE UTILIZATION IN A GRASSLAND SPARROW. *Ecology* 52(6): 1065-1070, 3 figs. Autumn 1971. *WR 148: 73*

[Univ. Kans., Lawrence.] Abstract: Henslow's sparrow *(Ammospiza henslowii)* is a secondary sexually monomorphic breeding bird in meadows, hayfields, prairies, grasslands, and some croplands in eastern North America. Foraging behavior during the nestling period involved no intersexual differences in prey selection, and both sexes were opportunistic in food choice. Sexual spatial partitioning of the feeding niche was accomplished by adults foraging in different directions and at different distances from the nests. Males, which defend the territories alone, forage at greater distances from the nest than females. Females forage closer to the nest and in different areas than males, which enhances survival of young because females do most of the feeding and all brooding of young.--Courtesy/ Paul A. Stewart.

Rylander, Michael Kent. SWALLOW-LIKE BEHAVIOR IN THE RUSTY-MARGINED FLY-CATCHER, *MYIOZETETES CAYANENSIS*, IN COLOMBIA. *Wilson Bull.* 84(3): 344. Sept. 1972. *WR 148: 73*

[Texas Tech Univ., Lubbock.] Courtesy/ Paul A. Stewart.

Samuel, David E. SONG VARIATION AND OTHER VOCALIZATIONS OF VEERIES. *Bird-Banding* 43(2): 118-127, 6 figs. Apr. 1972. *WR 148: 73*

[W. Va. Univ., Morgantown.] *"Hylocichla fuscescens."*--Courtesy/ Paul A. Stewart.

Sauer, E. G. INTERSPECIFIC BEHAVIOUR OF THE SOUTH AFRICAN OSTRICH. *Ostrich* suppl. no. 8. p. 91-103. 1971. [From Auk 89(4), 1972.] *WR 148: 73*

Sauer, E. G. Franz. ABERRANT SEXUAL BEHAVIOR IN THE SOUTH AFRICAN OSTRICH. *Auk* 89(4): 717-737, 5 figs. Oct. 1972. *WR 148: 73*

[Zool. Forschungsinstitut, Bonn, Germany.] Homosexual and other aberrant behavior in males of the wild South African ostrich *(Struthio camelus australis)* is described and compared with the corresponding heterosexual activities.--From summ. Courtesy/ Paul A. Stewart.

Short, L. L. NOTES ON THE HABITS OF SOME ARGENTINE AND PERUVIAN WOODPECKERS (AVES, PICIDAE). *Am. Mus. Novit.* no. 2413. 1970. [From Auk 89(4), 1972.] *WR 148: 74*
Notes on 18 spp.

Siegfried, W. Roy, and Bruce D. J. Batt. WILSON'S PHALAROPES FORMING FEEDING ASSOCIATION WITH SHOVELLERS. *Auk* 89(3): 667-668. July 1972. *WR 148: 74*
[Univ. Cape Town, Rondebosch, Cape, South Africa.] Wilson phalaropes *(Steganopus tricolor)* followed feeding shovellers *(Anas clypeata)* and captured invertebrates flushed by the ducks.--Courtesy/ Paul A. Stewart.

Spjøtvoll, Ø. [OBSERVATIONS ON THE BREEDING OF BIRDS DURING A HEAVY SNOWFALL IN JUNE 1971.] *Sterna* 11: 97-104. 1972. [From Ibis 115(1), 1973. In Norwegian with English summ.] *WR 148: 74*

Stevenson-Hinde, Joan. EFFECTS OF EARLY EXPERIENCE AND TESTOSTERONE ON SONG AS A REINFORCER. *Anim. Behav.* 20(3): 430-435, 2 figs. Aug. 1972. *WR 148: 74*
[Madingley, Cambridge, England.] Abstract: Thirty-seven out of forty-nine first-year male chaffinches showed some reinforcing effect of song, with perching on a particular perch as the operant response. Of the birds that were injected with testosterone, those reared in the wild showed a significantly higher reinforcing effect than did those which were hand-reared, either in isolation from adult song or while tutored with adult song from a tape recorder. Furthermore, testosterone injections tended to increase the reinforcing effect for both autumn-caught birds and hand-reared birds. These two conditions which increased the reinforcing effect of song are also those which Thorpe (1958) found necessary for normal song development, and this suggests that reinforcement does play a part in normal song learning.

Storer, R. W. THE BEHAVIOUR OF THE NEW ZEALAND DABCHICK. *Notornis* 18: 175-186. 1971. [From Auk 89(4), 1972.] *WR 148: 74*
"Podiceps rufopectus."

Sulkava, S. ON SMALL BIRDS SPENDING THE NIGHT IN THE SNOW. *Aquilo Ser. Zool.* 7: 33-37. 1972. [From Ibis 115(1), 1973.] *WR 148: 74*

Turek, Fred W. CIRCADIAN INVOLVEMENT IN TERMINATION OF THE REFRACTORY PERIOD IN TWO SPARROWS. *Science* 178(4065): 1112-1113. 8 Dec. 1972. *WR 148: 74*
[Stanford Univ., Stanford, Calif.]

Williams, W. T., J. Kikkawa, and D. K. Morris. A NUMERICAL STUDY OF AGONISTIC BEHAVIOUR IN THE GREY-BREASTED SILVEREYE *(ZOSTEROPS LATERALIS)*. *Anim. Behav.* 20 (1): 155-165, 1 fig. Feb. 1972. *WR 148: 74*
[CSIRO, Cunningham Lab., St. Lucia, Queensland, Australia.]

Wolf, Larry L., and F. Reed Hainsworth. TIME AND ENERGY BUDGETS OF TERRITORIAL HUMMINGBIRDS. *Ecology* 52(6): 980-988, 3 figs. Autumn 1971. *WR 148: 74*
[Syracuse Univ., Syracuse, N.Y.] Territorial defense was of relatively low cost in time and energy because of the inactive defense utilized by *Eulampis*. Time and energy not used for territorial defense and foraging were expended sitting on perches within the territory.--From summ. Courtesy/ Paul A. Stewart.

Wolf, Larry L., F. Reed Hainsworth, and F. Gary Stiles. ENERGETICS OF FORAGING: RATE AND EFFICIENCY OF NECTAR EXTRACTION BY HUMMINGBIRDS. *Science* 176(4041): 1351-1352. 23 June 1972. *WR 148: 74*
[Syracuse Univ., Syracuse, N.Y.]

Yeates, G. W. OBSERVATIONS ON ORIENTATION OF PENGUINS TO WIND AND ON COLONIZATION IN THE ADELIE PENGUIN ROOKERY AT CAPE ROYDS, ANTARCTICA. *New Zealand J. Sci.* 14(4): 901-906, illus. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 74*
[Soil Bur., Dep. Sci., Ind. Res., Lower Hutt, New Zealand.]

Yuen, Henry J. AGONISTIC BEHAVIOR OF THE RED CRESTED CARDINAL. *Elepaio* 33 (6): 55-61. Dec. 1972. *WR 148: 75*
"Paroaria coronata."

BIRDS--MIGRATION & BANDING REPORTS

Able, Kenneth P. FALL MIGRATION IN COASTAL LOUISIANA AND THE EVOLUTION OF MIGRATION PATTERNS IN THE GULF REGION. *Wilson Bull.* 84(3): 231-242, 8 figs. Sept. 1972. *WR 148: 75*
[State Univ. N.Y., Albany.] Passerine migrants at Lake Charles, La., flew with the wind, regardless of its direction. Because of the frequency of southerly winds, "reverse" migrations were common. However, a strong net flow of birds in a southwesterly direction resulted from prevailing northeasterly winds and the occurrence of disproportionately large migrations when air flow was favorable for movement toward wintering areas. Downwind flight assures that small landbirds will not embark on long overwater flights in unfavorable winds, but at the same time allows them to take advantage of northerly post-frontal winds when they occur.--From summ. Courtesy/ Paul A. Stewart.

Atayev, M. [ON THE INTERACTIVE FLUCTUATIONS OF EXTERNAL ELECTROMAGNETIC FIELD INTENSITY, AND THE "INTENSITY" OF NEURAL EXCITATION IN THE CENTRAL NERVOUS SYSTEM.] *Izv. Akad. Nauk SSSR Otd. Biol.* 1972(1): 119-133. 1972. [From Bird-Banding 43(2), 1972. In Russian.] *WR 148: 75*

Boulvin, P. REFLEXIONS A PROPOS DE LA MIGRATION DES OISEAUX. [REFLECTIONS CONCERNING THE MIGRATION OF BIRDS.] *Nat. Belg.* 52(5): 245-257, illus. 1971. [From Biol. Abstr. 54(12), 1972. In French.] *WR 148: 75*
The calculus of probabilities is applied to the migration of masses of birds as compared to dispersed birds in their advantage against birds of prey. It is shown that the probability that migrating birds will be captured is less when the birds are grouped than when they are dispersed. Additional formulae are given for the case of more than one predator. It should be noted that while the predator is consuming his catch, thousands of other birds have passed in the group.

Bruder, B. RADARBEOBACHTUNGEN ÜBER DEN FRÜHLINGSZUG IM SCHWEIZERISCHEN MITTELLAND. [RADAR OBSERVATIONS OF SPRING MIGRATION IN CENTRAL SWITZERLAND: A CONTRIBUTION TO THE STUDY OF THE INFLUENCE OF WEATHER ON BIRD MIGRATION.] *Ornithol. Beob.* 68: 89-158. 1971. [From Bird-Banding 43(2), 1972. In German with French and English summ.] *WR 148: 75*

Davies, S. J. J. F., M. W. R. Beck, and J. P. Kruiskamp. THE RESULTS OF BANDING 154 EMUS IN WESTERN AUSTRALIA. *CSIRO Wildl. Res.* 16(1): 77-79. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 75*
[Div. Wildl. Res., CSIRO, Midland, Australia.]

Dol'nik, V. R. [COMPARISON OF ENERGY EXPENDITURES FOR MIGRATION AND WINTERING OF BIRDS.] *Ekologiya* 2(3): 88-89. 1971. [From Biol. Abstr. 54(9), 1972. In Russian.] *WR 148: 75*
[Inst. Zool., Acad. Sci. USSR, Leningrad, USSR.] *"Fringilla coelebs."*

Downhower, J. F., and D. Windsor. USE OF LANDMARKS IN ORIENTATION BY BANK SWALLOWS. *BioScience* 21: 570-572. 1971. [From Bird-Banding 43(2), 1972.] *WR 148: 75*
"Riparia riparia."

Geis, Aelred D. USE OF BANDING DATA IN MIGRATORY GAME BIRD RESEARCH AND MANAGEMENT. *U.S. Fish Wildl. Serv. Spec. Sci. Rep. Wildl.* no. 154. ii + 47 p. 1972. For sale at 50¢ from Supt. Documents, GPO, Washington, D.C. *WR 148: 75*
[Patuxent Wildl. Res. Cent., Laurel, Md.] "Basically, there are three major characteristics (each with many ramifications) of game bird populations revealed

by banding data: (1) the distribution (and derivation) of the hunting kill, (2) rate of hunting kill, and (3) estimates of mortality rates from all causes of death once the birds are old enough to be banded."

Jarry, G. BIRD RINGING IN SENEGAL 1969-1970. *Ring* 6(64-65): 67-68. 1970. [From Bird-Banding 43(3), 1972.] *WR 148: 76*

Mank, A. [THE LAPWING MIGRATION IN ESTONIA.] *Commun. Baltic Comm. Study Bird Migration* 7: 84-92. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 76*
"Vanellus vanellus."

Meshkov, M. M., and L. P. Urjadova. [THE AUTUMN MIGRATION OF OWLS AND WOODPECKERS.] *Commun. Baltic Comm. Study Bird Migration* 7: 18-28. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 76*

Mitchell, Carl J., and Thomas B. Hughes, Jr. HOMING IN HOUSE SPARROWS, *PASSER DOMESTICUS*. *Bird-Banding* 43(3): 213-214. July 1972. *WR 148: 76*
[U.S. Public Health Serv., P.O. Box 551, Fort Collins, Colo.] Courtesy/ Paul A. Stewart.

Myres, M. T., and R. F. Apps. MIGRATION OF BIRDS OVER THE SOUTH COAST OF CHINA RECORDED BY RADAR. *Nature* 241(5391): 552. 23 Feb. 1973. *WR 148: 76*
[Univ. Calgary, Calgary, Alberta, Canada.] Migration of charadriiform species recorded by radar in Hong Kong.

Payevsky, V. A. [INDIVIDUAL VARIATION OF TEMPORAL AND TERRITORIAL DISTRIBUTION IN SOME PASSERINE BIRDS DURING MIGRATION.] *Commun. Baltic Comm. Study Bird Migration* 7: 3-17. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 76*

Pressmann, Alexander. ZUGVÖGEL UND MAGNETISCHE FELDER. [BIRD MIGRATION AND THE MAGNETIC FIELD.] *Ornithol. Mitt.* 24(12): 265-268. Dec. 1972. In German. *WR 148: 76*

Richardson, W. J. SPRING MIGRATION AND WEATHER IN EASTERN CANADA: A RADAR STUDY. *Am. Birds* 25: 684-690. 1971. [From Bird-Banding 43(3), 1972.] *WR 148: 76*

Richardson, W. J. AUTUMN MIGRATION AND WEATHER IN EASTERN CANADA: A RADAR STUDY. *Am. Birds* 26: 10-17. 1972. [From Bird-Banding 43(3), 1972.] *WR 148: 76*

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[Inst. Biol., Zagreb, Yugoslavia.]

Vuolanto, S., and I. Sten. GAME MARKING WITH WING-TAGS IN FINLAND 1962-69. *Mem. Fauna Flora Fenn.* 47: 60-79. 1971. [From Ibis 115(1), 1973.] *WR 148: 76*
Reports of 4,212 birds of 90 spp. during 1962-69.

Wagar, Harold W. BAND RECOVERY-RETURN DISTRIBUTION OF COMMON GRACKLES AND ROBINS FROM SOUTH DAKOTA. *S. Dak. Bird Notes* 24(4): 78-79, 81. Dec. 1972. *WR 148: 76*
[Cresbard, S. Dak.] Returns and recoveries made during 1931-1969.

Walcott, C., and M. C. Michener. SUN NAVIGATION IN HOMING PIGEONS -- ATTEMPTS TO SHIFT SUN CO-ORDINATES. *J. Exp. Biol.* 54: 291-316. 1971. [From Bird-Banding 43(2), 1972.] *WR 148: 77*

Wedts De Swart, J. C. [OBSERVATIONS OF MIGRATING NUTCRACKERS *NUCIFRAGA CARYOCATACTES* IN THE PROVINCE OF ZEELAND IN 1968 AND 1969.] *Limosa* 45: 25-29. 1972. [From Ibis 115(1), 1973. In Dutch with English summ.] *WR 148: 77*

Wiltschko, Wolfgang, and Roswitha Wiltschko. MAGNETIC COMPASS OF EUROPEAN ROBINS. *Science* 176(4030): 62-64, 3 figs. 7 Apr. 1972. *WR 148: 77*
[Zool. Inst. Univ. Frankfurt, Frankfurt/Main, Germany.] *"Erithacus rubecula."*

Woodward, Paul W. MOVEMENT OF A BREEDING WHITE-EYED VIREO FROM MARYLAND TO BRITISH HONDURAS. *Bird-Banding* 43(2): 143. Apr. 1972. *WR 148: 77*
[1856 Mintwood Pl., NW, Washington, D.C.] The first recovery of a banded white-eyed vireo *(Vireo griseus)* from the wintering ground of the species.--Courtesy/ Paul A. Stewart.

Yoshii, M., and Y. Hasuo. SEVENTH ANNUAL REPORT ON THE BIRD-RINGING FOR THE YEAR ENDING 31ST MARCH 1968. *Misc. Repts. Yamashina's Inst. Ornithol.* 5: 511-533. 1969. [From Auk 89(4), 1972. In Japanese and English.] *WR 148: 77*

BIRDS--MANUALS, FAUNAS, COMMUNITIES

Abbott, I. J., and K. N. G. Simpson. AVIFAUNAL AFFINITIES OF MACQUARIE, NORFOLK, PHILLIP AND LORD HOWE ISLANDS. *Emu* 72(4): 178. Oct. 1972. *WR 148: 77*
[Monash Univ., Clayton, Victoria, Australia.]

Abdulali, Humayun. A CATALOGUE OF THE BIRDS IN THE COLLECTION OF THE BOMBAY NATURAL HISTORY SOCIETY: 10. CUCULIDAE. (CONTINUED). *J. Bombay Nat. Hist. Soc.* 68(3): 756-772. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 77*
[Bombay Nat. Hist. Soc., Bombay, Maharashtra, India.] This part deals with 435 specimens of 36 spp. and subspecies.

Adams, G. P. WILDLIFE SURVEY OF THE NOTUROA ISLANDS. *Notornis* 18: 43-49. 1971. [From Auk 89(4), 1972.] *WR 148: 77*
Annotated list of 24 bird species.

Afanas'eva, L. A., and others, compilers. [BIRDS OF THE USSR / BIBLIOGRAPHIC INDEX 1881-1917.] *Isdat. "Nauka" Leningrad. Otdel.* 195 p. 1972. In Russian. Price 1 ruble 50 kopecks. *WR 148: 77*
Bibliography of 3318 titles.

Alsop, Fred J. III. A PRELIMINARY LIST OF TENNESSEE BIRDS. *Migrant* 43(3): 57-64, 71. Sept. 1972. *WR 148: 77*
The list includes 255 regularly occurring species, 41 casual species, 26 accidental species, 6 extirpated or former species, 2 extinct species, 5 introduced species, and 2 hybrids for a total of 333 spp. on the accepted list.

Bakaev, S. [FECUNDITY OF CERTAIN SPECIES OF BIRDS IN THE LOWER REACHES OF THE ZARAFSHAN RIVER.] *Ekologiya* 2(5): 99-100. 1971. [From Biol. Abstr. 54(7), 1972. In Russian.] *WR 148: 77*
The number of eggs and nestlings in the nests of birds from 29 spp. in the lower reaches of the Zarafshan River was studied from 1961-69.

Baumanis, J. [A SURVEY OF THE BIRD FAUNA OF FISH-BREEDING FARMS OF THE LATVIAN SSR.] *Zool. Muz. Raksti* 7: 47-69. 1971. [From Ibis 115(1), 1973. In Latvian with English summ.] *WR 148: 77*

Benson, G. B. G., and Kenneth Williamson. BREEDING BIRDS OF A MIXED FARM IN SUFFOLK. *Bird Study* 19(1): 34-50, 4 figs. Mar. 1972. *WR 148: 78*
[17 South Green, Southwold, Suffolk, England.] The density and habitat preference of the chief song-bird species are discussed particularly with reference to their numbers and distribution in the small wooded areas compared with the field hedgerow system.--From summ.

Birulya, N. [ON ZOOCENOTIC GROUP STRUCTURE OF FOREST SONGBIRDS IN THE NESTING SEASON.] *Byull. Mosk. O-va. Ispyt. Prir. Otd. Biol.* 76(6): 5-71. 1971. [From Bird-Banding 43(2), 1972. In Russian with English summ.] *WR 148: 78*
Bibliography of 50 titles.

Blackburn, A. SOME NOTES ON FIJIAN BIRDS. *Notornis* 18: 147-174. 1971. [From Auk 89(4), 1972.] *WR 148: 78*
Status of all species previously recorded.

Bond, James. BIRDS OF THE WEST INDIES. 2nd edition. *Houghton Mifflin Co.* (Boston). 256 p., 94 illustrations in color and 186 in black and white, 5 x 7.75 in. 1971. Price $8.95. *WR 148: 78*
"This new and completely reset edition makes available once again the only complete guide to the birds of the West Indies. Every species of bird known to occur regularly in these Caribbean islands is described--more than 400 in all."

Boyer, George G. BIRDS OF THE NOVA SCOTIA-NEW BRUNSWICK BORDER REGION. *Canadian Wildl. Serv. Occas. Pap.* no. 8. 47 p. 1972. *WR 148: 78*
The list comprises a total of 217 spp.

Braun, Clait E., and Terry A. May. COLORADO ALPINE TUNDRA AVIFAUNAL INVESTIGATIONS, 1966-71. *Proc. 1972 Tundra Biome Symp.* (Lake Wilderness Cent., Univ. Wash.). p. 165-168, 1 fig. 1972. *WR 148: 78*
[Colo. Div. Game Fish & Parks, Fort Collins.] Investigations of the alpine avifauna of Colorado were begun in 1966 with emphasis on the population ecology of white-tailed ptarmigan *(Lagopus leucurus)*. During the early years of investigation, data on all facets of ptarmigan ecology were collected. Since 1970, the primary concern has been the role of this consumer in utilization of alpine herbage. During the 6 years of study, ptarmigan populations remained fairly stable, with breeding densities ranging from less than 10 to over 20 birds per square mile.--From summ.

Brooke, R. K. BIRD BREEDING IN RHODESIA. *Rhodesia Sci. News* 6(12): 352-354, illus. Dec. 1972. *WR 148: 78*
[Univ. Rhodesia, Salisbury, Rhodesia.] About 450 of the approximately 650 spp. of Rhodesian birds are known to breed in Rhodesia.

Busse, P. [RARITIES OBSERVED IN POLAND DURING "OPERATION BALTIC."] *Vår Fågelvärld* 30: 243-245. 1971. [From Auk 89(4), 1972. In Swedish with English summ.] *WR 148: 78*

Campbell, R. Wayne, Michael G. Shepard, and Wayne C. Weber. VANCOUVER BIRDS IN 1971. *Vancouver Nat. Hist. Soc.* 88 p., 18 figs. 1972. Price $1.50. *WR 148: 78*
[Vancouver Nat. Hist. Soc., Box 3021, Vancouver, British Columbia, Canada.] Summary of the occurrence of all species during 1971 in the Vancouver area of southwestern British Columbia.

Cooper, J. A CHECK LIST OF THE BIRDS OF THE ZAMBEZI VALLEY FROM KARIBA TO ZUMBO. *S. African Avifauna Ser. Percy FitzPatrick Inst. African Ornithol.* no. 85. 43 p. 1972. Price R1.00. *WR 148: 78*

Crawford, D. N. BIRDS OF DARWIN AREA, WITH SOME RECORDS FROM OTHER PARTS OF NORTHERN TERRITORY. *Emu* 72(4): 131-148, 1 fig. Oct. 1972. *WR 148: 79*
[c/o CSIRO, Box 738, Darwin, Northern Territory, Australia.] The Darwin area is briefly described with an outline of topography, climate, and habitats. The birds are described in a systematic list of 254 spp.--From summ.

Davis, Thomas H., Jr. CHECKLIST OF GALAPAGOS BIRDS. *Birding* 4(3): 117-121. May-June 1972. *WR 148: 79*
[86-13 85th St., Woodhaven, N.Y.] "Fifty-five species are recorded breeding in the Galapagos, 26 of them are endemic. An additional 50 spp. are recorded as migrants, plus 12 hypothetical species."

Dos Santos, J. R., Jr. ORNITOLOGIA DAS ILHAS SELVAGENS: 2a. CAMPANHA DE ESTUDOS, 1969. [ORNITHOLOGY OF THE SELVAGENS ISLANDS: SECOND STUDY CAMPAIGN, 1969.] *Cienc. Biol.* (Luanda) 1(1): 27-29, illus. 1970. [From Biol. Abstr. 54(7), 1972. In Portuguese.] *WR 148: 79*
[Univ. Luanda, Luanda, Angola.] Some of the nesting birds in the area are the Mediterranean shearwater, *Calonectris diomedea borealis*; the frigate petrel, *Pelagodroma marina*; the "pintainho," *Procellaria baroli*; Harcourt's petrel, *Oceanodroma castro*, and Bulwer's petrel, *Bulweria bulwerii*.

Evans, Keith E., and Roger R. Kerbs. SOME BIRDS OF JACKSON COUNTY, SOUTH DAKOTA. *S. Dak. Bird Notes* 24(4): 76-77, 81. Dec. 1972. *WR 148: 79*
Based on counts made during 1966-71.

Frochet, B. ÉCOLOGIE DES OISEAUX FORESTIERS DE BOURGOGNE ET DU JURA. [ECOLOGY OF THE FOREST BIRDS OF BURGUNDY AND OF THE JURA.] *Thesis, Univ. Dijon.* 144 p. 1971. [From Ibis 115(1), 1973. In French.] *WR 148: 79*

Galloway, B., E. R. Meek, and I. H. Armstrong. BIRDS IN NORTHUMBRIA / 1971 REPORT OF THE TYNESIDE BIRD CLUB. *Tyneside Bird Club.* 75 p., illus. [1972.] Price 50d. *WR 148: 79*
[115 Southway, South Denton, Newcastle Upon Tyne, England.] Annotated list of 253 spp.

Gloe, Peter. ZUR VOGELWELT DER INSEL TERTIUS (DITHMARSCHEN). [ON THE AVIFAUNA OF TERTIUS ISLAND (SCHLESEIG-HOLSTEIN).] *Ornithol. Mitt.* 24(10): 210-213, 1 fig. Oct. 1972. In German. *WR 148: 79*
[Mühlenstrasse 10, Meldorf, Germany.]

Gordon, Margaret. REED BUNTINGS ON AN OXFORDSHIRE FARM. *Bird Study* 19(2): 81-90, 3 figs. + 3 pls. June 1972. *WR 148: 79*
[20 The Moors, Kidlington, Oxford, England.] The habitat requirements of the three common buntings, and the movement of reed buntings into dryer habitats in recent years are discussed.--From summ.

Gordon, Nancy J. ISLE OF MAY BIRD OBSERVATORY AND FIELD STATION REPORT FOR 1971. *Scottish Birds* 7(2): 75-89, illus. Summer 1972. *WR 148: 79*

Gyngazov, A. M., and S. S. Moskitin. [ORNITHOFAUNA OF THE MIDDLE AND LOWER KETA RIVER.] *Trudy Nauchno-Issled. Inst. Biol. Biofiz. Tomsk Univ.* 1: 33-44. 1970. [From Biol. Abstr. 54(7), 1972, from Ref. Zh. Biol., 1971, no. 7I397. In Russian.] *WR 148: 79*

Haarmann, K., and G. Radach. DIE ENTWICKLUNG VON VERBREITUNGS-KARTEN FÜR VÖGEL IN HAMBURG. [THE DEVELOPMENT OF DISTRIBUTIONAL MAPS OF HAMBURG BIRDS.] *Vogelwelt* 93: 11-17. 1972. [From Ibis 115(1), 1973. In German.] *WR 148: 79*

Hald-Mortensen, Poul. YNGLEFUGLENE PA STRANDENGEN BYGHOLM VEJLE 1965. [BREEDING BIRDS IN A COASTAL MARSH AREA, BYGHOLM VEIJLE, IN 1965.] *Flora Fauna* 78(1): 7-24, illus. 1972. [From Biol. Abstr. 54(9), 1972. In Danish with English summ.] *WR 148: 79*
[Copenhagen Univ., Copenhagen, Denmark.]

Handke, K. DIE AVIFAUNA DES NATURSCHUTZGEBIETES WILDENHAINER BRUCH. [THE AVIFAUNA OF THE WILDENHAINER BRUCH NATURE RESERVE.] *Beitr. Vogelkunde* 17: 104-134. 1971. [From Ibis 115(1), 1973. In German.] *WR 148: 80*
Annotated list.

Hickling, Grace, and Peter Hawkey. ORNITHOLOGICAL REPORT FOR THE FARNE ISLANDS FOR 1970. *Trans. Nat. Hist. Soc. Northumberland, Durham, Newcastle Upon Tyne* 17(5): 183-195 + 1 plate. Aug. 1972. *WR 148: 80*

Howell, Thomas R. BIRDS OF THE LOWLAND PINE SAVANNA OF NORTHEASTERN NICARAGUA. *Condor* 74(3): 316-340, 2 figs. Autumn 1972. *WR 148: 80*
[Univ. Calif., Los Angeles.] The taxonomy, distribution, and breeding status of the resident birds and records of noteworthy migrants and visitors are included.--Courtesy/ Paul A. Stewart.

Johannsen, Olav. RUNDE'S FUGLEFAUNA. [BIRDS OF RUNDE.] *Fauna* (Oslo) 24(3): 145-156, illus. 1971. [From Biol. Abstr. 54(9), 1972. In Norwegian with English summ.] *WR 148: 80*
[Runde, Norway.] Changes in the avifauna during the last 50 years in Runde.

Johnson, Ned K. ORIGIN AND DIFFERENTIATION OF THE AVIFAUNA OF THE CHANNEL ISLANDS, CALIFORNIA. *Condor* 74(3): 295-315, 2 figs. Autumn 1972. *WR 148: 80*
[Univ. Calif., Berkeley.] Of the approximately 41 spp. of land birds which breed in the Channel Islands, California, 13 (32%) are represented by 18 endemic subspecies. When compared with their relatives on the adjacent mainland, these endemic forms are characterized by darker or grayer coloration, longer and/or heavier bills, and longer and/or heavier tarsi and toes.--Courtesy/ Paul A. Stewart.

Köhler, Karl-Heinz. DIE VOGELWELT EINES BAHNDAMMES IM SOMMER UND WINTER. [THE AVIFAUNA OF A RAILWAY EMBANKMENT IN SUMMER AND WINTER.] *Ornithol. Mitt.* 24 (12): 255-259. Dec. 1972. In German with English summ. *WR 148: 80*
[Schulstrasse 6, Bodenteich, Germany.]

Kricher, John C. SUMMER BIRD SPECIES DIVERSITY IN RELATION TO SECONDARY SUCCESSION ON THE NEW JERSEY PIEDMONT. *Am. Midl. Nat.* 89(1): 121-137, 6 figs. Jan. 1973. *WR 148: 80*
[Wheaton Coll., Norton, Mass.]

Kuroda, N. H. [A BIRD CENSUS IN THE IMPERIAL PALACE FOR 1968.] *Misc. Repts. Yamashina's Inst. Ornithol.* 5: 462-472. 1969. [From Auk 89(4), 1972. In Japanese with English summ.] *WR 148: 80*

Larsen, Hjalmar. FUGLEFAUNAEN PA STREKNINGEN NORDKAPP-VARDO, NORGES OG EUROPAS VAERHARDESTE KYSTSTROL. [THE AVIFAUNA ON THE MOST EXPOSED STRETCH OF COAST IN NORWAY AND EUROPE, NORTH CAPE-VARDO.] *Fauna* (Oslo) 24(3): 157-172, illus. 1971. [From Biol. Abstr. 54(9), 1972. In Norwegian with English summ.] *WR 148: 80*
[Fjellun. 36, Narvik, Norway.] A list of 99 spp. is presented.

Lebret, T. VOGELS VAN DE NATUURRESERVATEN IN HET VEERSE MEER IN DE EERSTE TIEN HAAR NA DE AFSLUITING 1961-1970. [BIRDS OF THE NATURE RESERVES IN THE VEERSE MEER IN THE FIRST TEN YEARS AFTER THE CLOSING OF THE ESTUARY 1961-1970.] *Limosa* 45(1-2): 1-24, 6 figs. 1972. In Dutch with English summ. *WR 148: 80*
[Populierenlaan 7, Middelburg, Netherlands.]

Lebreton, Philippe, Michel Thevenot, Jean-Dominique Lebreton, and Helene Braemer. ETUDE ORNITHOLOGIQUE DU MASSIF DU PILAT (LOIRE). [ORNITHOLOGICAL STUDY OF THE MASSIF OF PILAT (LOIRE).] *Alauda* 39(4): 317-345, illus. 1971. [From Biol. Abstr. 54(7), 1972. In French.] *WR 148: 80*
[Claude-Bernard Univ., Villeurbanne, France.]

Lebreton, Philippe, Michel Thevenot, Jean-Dominique Lebreton, and Helene Braemer. ETUDE ORNITHOLOGIQUE DU MASSIF DU PILAT (LOIRE). [ORNITHOLOGICAL STUDY OF THE PILAT MOUNTAIN RANGE (LOIRE).] *Alauda* 40(1): 37-52, illus. 1972. [From Biol. Abstr. 54(12), 1972. In French with English summ.] *WR 148: 81*
A checklist of the bird species composed mostly of passerines, the plant communities, climate and geography of the area are given. Seasonal migration of the birds is also reviewed.

MacLean, G. L. THE BREEDING SEASONS OF BIRDS IN THE SOUTH-WESTERN KALAHARI. *Ostrich* suppl. no. 8. p. 179-192. 1971. [From Auk 89(4), 1972.] *WR 148: 81*

Mayfield, Harold F. BIRD BONES IDENTIFIED FROM INDIAN SITES AT WESTERN END OF LAKE ERIE. *Condor* 74(3): 344-347. Autumn 1972. *WR 148: 81*
[9235 River Rd., Waterville, Ohio.] Includes a list of 34 spp.--Courtesy/ Paul A. Stewart.

Metcalf, T. Nelson, compiler. BIRDS OF THE SANTA BARBARA REGION / AN ANNOTATED LIST INCLUDING HABITATS, SEASONAL DISTRIBUTION, FREQUENCY, FIELD TRIPS, MAP. *Santa Barbara Mus. Nat. Hist. Occas. Pap.* no. 8. i + 41 p. 1967. Rev. 1972. *WR 148: 81*
Annotated list of 394 spp. of birds that have been found within 50 miles of Santa Barbara, California.

Milledge, David. THE BIRDS OF MAATSUYER ISLAND, TASMANIA. *Emu* 72(4): 167-170. Oct. 1972. *WR 148: 81*
[Natl. Parks & Wildl. Serv., P.O. Box 165, Sandy Bay, Tasmania.]

Moltoni, Edgardo. GLI UCCELLI AD OGGI RISCONTRATI NELLE ISOLE DI TAVOLARA, MOLARA E MOLAROTTO (SARDEGNA NORD-ORIENTALE). [THE BIRDS SO FAR ENCOUNTERED ON THE ISLANDS OF TAVOLARA, MOLARA AND MOLAROTTO (NORTHEASTERN SARDINIA).] *Riv. Ital. Ornitol.* 41(4): 223-372, illus. 1971. [From Biol. Abstr. 54(9), 1972. In Italian.] *WR 148: 81*
[Univ. Milano, Milano, Italy.] A total of 158 spp. belonging to 45 families comprise the birds encountered in these islands.

Morioka, Hiroyuki. [ALPINE AVIFAUNA OF HOKKAIDO, JAPAN.] *Mem. Natl. Sci. Mus.* (Tokyo) 4. p. 43-54. 1971. [From Biol. Abstr. 54(12), 1972. In Japanese with English summ.] *WR 148: 81*
[483-114 Josui Minami-machi, Tokyo, Japan.]

Munro, M. BIRDS OF WHANGAREI HARBOUR. *Notornis* 18: 202-206. 1971. [From Auk 89(4), 1972.] *WR 148: 81*

Norton, David W., Gustavo Orcés V., and Ernst Sutter. NOTES ON RARE AND PREVIOUSLY UNREPORTED BIRDS FROM ECUADOR. *Auk* 89(4): 889-894. Oct. 1972. *WR 148: 81*
[Univ. Alaska, College.] With notes on 22 spp.--Courtesy/ Paul A. Stewart.

O'Brien, James P. A WINTER STUDY OF THE BIRD POPULATION IN ST. YON VALLEY, ST. MARY'S COLLEGE, WINONA, MINNESOTA. *Loon* 44(3): 68-76. Fall 1972. *WR 148: 81*

Parrack, J. D., and R. T. McAndrew. ORNITHOLOGICAL REPORT FOR NORTHUMBERLAND AND DURHAM FOR 1969. *Trans. Nat. Hist. Soc. Northumberland, Durham, Newcastle Upon Tyne* 17(5): 196-221. Aug. 1972. *WR 148: 81*

Peck, George K. BIRDS OF THE CAPE HENRIETTA MARIA REGION, ONTARIO. *Canadian Field Nat.* 86(4): 333-348, 5 figs. Oct.-Dec. 1972. *WR 148: 81*
[68 Barringham Dr., Oakville, Ontario, Canada.] The 94 bird species occurring in this region consist of 35 known breeding species, 10 probable breeding species, 30 summer visitors (non-breeders and accidentals), 18 arctic-breeding migrants, and one winter resident.--From abstr.

Peitzmeier, J. ZUR AVIFAUNA DER STRASSENALLEEN IN DER FREIEN LANDSCHAFT. [ON THE AVIFAUNA OF THE HIGHWAYS OF THE OPEN COUNTRY.] *Ornithol. Mitt.* 24(8): 177. Aug. 1972. In German. *WR 148: 82*
[Lintel, Wiedenbrück, Germany.] Nesting-site analysis by bird and tree species.

Petrovic, Clive A., and James King, Jr. COMMON EIDER AND KING RAIL FROM THE DRY TORTUGAS, FLORIDA. *Auk* 89(3): 660. July 1972. *WR 148: 82*
[F. T. Stone Lab., Put-in-Bay, Ohio.] *"Somateria mollissima* and *Rallus elegans."*

Pinto, A. A. Rosa. UM CATÁLOGO DAS AVES DO DISTRITO DA HUILA (ANGOLA). [A CATALOG OF THE BIRDS OF THE HUILA DISTRICT (ANGOLA). PRELIMINARY SYSTEMATIC LIST.] *Mem. Trav. Inst. Invest. Cient. Angola* (Luanda) 6. 193 p. 1970. [From Ibis 115(1), 1973. In Portuguese.] *WR 148: 82*

Portenko, L. A. [THE BIRDS OF THE CHUKOTSK PENINSULA AND WRANGEL ISLAND. PART I.] *Izdat. "Nauka" Leningrad. Otdel.* 424 p., 60 figs., 8 pls. 1972. In Russian. Price 4 rubles 71 kopecks. *WR 148: 82*

Rylander, M. K., and B. White. A BIBLIOGRAPHY OF TEXAS BIRDS. *Bull. Tex. Ornithol. Soc.* 2: 42-51. 1968. [From Auk 89(4), 1972.] *WR 148: 82*
List of 445 articles for period 1950-1967.

Sätvedt, O. [THE BIRDS OF VESTVÅGBY ISLAND IN LOFOTEN.] *Sterna* 11: 109-130. 1972. [From Ibis 115(1), 1973. In Norwegian with English summ.] *WR 148: 82*

Scott, J. A. A PRELIMINARY LIST OF THE BIRDS OF BUZI FARM, CHIPINGA DISTRICT, RHODESIA. *S. African Avifauna Ser. Percy FitzPatrick Inst. African Ornithol.* no. 86. 23 p. 1972. Price 20¢. *WR 148: 82*
Annotated list.

Short, Lester L. TWO AVIAN SPECIES NEW TO PARAGUAY. *Auk* 89(4): 895. Oct. 1972. *WR 148: 82*
[Am. Mus. Nat. Hist., New York, N.Y.] *"Coccyzus erythropthalmus* and *Pseudocolopteryx acutipennis."*--Courtesy/ Paul A. Stewart.

Skutch, A. F. THE CHALLENGE OF TROPICAL AMERICA. *Bull. Tex. Ornithol. Soc.* 2: 30-33. 1968. [From Auk 89(4), 1972.] *WR 148: 82*

Speirs, J. Murray, and Edgerton Pegg. FIRST RECORD OF PAINTED REDSTART *(SETOPHAGA PICTA)* FOR CANADA. *Auk* 89(4): 898. Oct. 1972. *WR 148: 82*
[Univ. Toronto, Toronto, Ontario, Canada.] Courtesy/ Paul A. Stewart.

Stepanyan, L. S. [SYSTEMATIC SPECIES LIST OF THE AVIAN FAUNA OF THE USSR.] *Zool. Posvonochnikh* 1969: 136-175. 1971. In Russian. *WR 148: 82*
List of 770 spp.

Takara, T., and N. H. Kuroda. [RARE AND NEW RECORDS OF BIRDS FROM THE RYUKYU IS.] *Misc. Rept. Yamashina's Inst. Ornithol.* 5: 547-562. 1969. [From Auk 89 (4), 1972. In Japanese with English summ.] *WR 148: 82*

Trellinger, Karl, and Juergen Luce. DIE VOGELWELT DER STAUSEEN DER MITTLEREN ISAR ZWISCHEN MOOSBURG UND LANDSHUT. [THE BIRDS OF THE RESERVOIRS OF THE CENTRAL ISAR BETWEEN MOOSBURG AND LANDSHUT.] *Anz. Ornithol. Ges. Bayern* 10(3): 123-155, illus. 1971. [From Biol. Abstr. 54(7), 1972. In German.] *WR 148: 82*
[Schwimmschulst. 10, Landshut, Germany.] The occurrence and frequency of the 221 spp. of breeding, migrating and overwintering birds in the area are reported.

Tuck, Leslie M., and Michel J. Borotra. ADDITIONS TO THE AVIFAUNA OF ST. PIERRE AND MIQUELON. *Canadian Field Nat.* 86(3): 279-284. July-Sept. 1972. *WR 148: 83*
[Canadian Wildl. Serv., St. John's, Newfoundland, Canada.] "This paper adds 67 new species, for a total of 185 now recorded, to the archipelago."

Vaurie, Charles. AN ORNITHOLOGICAL GAZETTEER OF PERU (BASED ON INFORMATION COMPILED BY J. T. ZIMMER). *Am. Mus. Novit.* 2491. p. 1-36, illus. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 83*
[Am. Mus. Nat. Hist., New York, N.Y.]

Vernon, C. J. THE APPLICATION OF BOTANICAL ORDINATION TECHNIQUES TO THE ANALYSIS OF AVIAN COMMUNITIES. *Ostrich* suppl. no. 8. p. 299-313. 1971. [From Auk 89(4), 1972.] *WR 148: 83*

Von Knoore, D. ORNITHOLOGISCHE BEOBACHTUNGEN WÄHREND EINER STUDIENREISE DURCH MITTEL- UND OSTGEORGIEN. [ORNITHOLOGICAL OBSERVATIONS DURING A JOURNEY THROUGH MIDDLE AND EAST GEORGIA.] *Beitr. Vogelkunde* 17: 428-448. 1971. [From Ibis 115 (1), 1973. In German.] *WR 148: 83*

Weske, John Seddon. THE DISTRIBUTION OF THE AVIFAUNA IN THE APURIMAC VALLEY OF PERU WITH RESPECT TO ENVIRONMENTAL GRADIENTS, HABITAT, AND RELATED SPECIES. *Ph.D. thesis, Univ. Okla.* 155 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(5), 1972.] *WR 148: 83*

Wodzicki, Kazimierz. THE BIRDS OF NIUE ISLAND, SOUTH PACIFIC: AN ANNOTATED CHECKLIST. *Notornis* 18(4): 291-304, 2 figs. Dec. 1971. *WR 148: 83*
[DSIR, Wellington, New Zealand.] The checklist of the birds in Niue Island, South Pacific (19° S. 169° W.), consists of 19 spp. (5 sea birds, 3 shore birds, and 11 land birds).--From abstr.

Won, P. O. SOME BIRD COLLECTIONS FROM TAIWAN. *Tori* 19: 67-69. 1969. [From Auk 89(4), 1972.] *WR 148: 83*

Yeaton, Richard Ivan. AN ECOLOGICAL ANALYSIS OF CHAPARRAL AND PINE FOREST BIRD COMMUNITIES ON SANTA CRUZ ISLAND AND MAINLAND CALIFORNIA. *Ph.D. thesis, Univ. Calif.* (Los Angeles). 128 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973.] *WR 148: 83*

Ytreberg, N. J. THE STATIONARY PASSERINE BIRD POPULATIONS IN THE BREEDING SEASON, 1968-1970, IN TWO MOUNTAIN FOREST HABITATS ON THE WEST COAST OF SOUTHERN NORWAY. *Norw. J. Zool.* 20(1): 61-89, illus. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 83*
[Univ. Oslo, Oslo, Norway.]

BIRDS--POPULATIONS & FLUCTUATIONS

Braaksma, S. OVER JAARLIJKSE VERSCHILLEN IN NESTPLAATSKEUZE. [ON THE ANNUAL FLUCTUATIONS IN BREEDING SITE SELECTION.] *Levende Nat.* 75: 61-69. 1972. [From Ibis 115(1), 1973. In Dutch with English summ.] *WR 148: 83*
The results of a breeding census in a Dutch forest area from 1963 to 1971.

Brewer, Richard. AN EVALUATION OF WINTER BIRD POPULATION STUDIES. *Wilson Bull.* 84(3): 261-277, 4 figs. Sept. 1972. *WR 148: 83*
[Western Mich. Univ., Kalamazoo.] A model was designed to evaluate estimates of bird numbers derived by methods employed in *Audubon Field Notes* winter bird population studies. It was concluded that in field situations fulfilling the conditions of the model very conspicuous birds would be overestimated and very inconspicuous birds underestimated.--From summ. Courtesy/ Paul A. Stewart.

Dixon, Clara Louise. A POPULATION STUDY OF SAVANNAH SPARROWS ON KENT ISLAND IN THE BAY OF FUNDY. *Ph.D. thesis, Univ. Mich.* 152 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(5), 1972.] *WR 148: 84*
"Passerculus sandwichensis."

Erskine, Anthony J. A PRELIMINARY CATALOGUE OF BIRD CENSUS PLOT STUDIES IN CANADA, PART 2. *Canadian Wildl. Serv. Prog. Notes* no. 30. 42 p. Aug. 1972. In English and French. *WR 148: 84*
[Canadian Wildl. Serv., Ottawa, Ontario, Canada.] Introduction: Part 1 of this catalogue, comprising 124 plots surveyed in 1969 or earlier, was published as CWS Progress Note no. 20 [Erskine, A. J., January 1971 *(WR 141: 61)*]. Part 2 summarizes plots censused in 1970 and 1971, and a number done earlier but not previously available. The methods of study and the mode of presentation are unchanged. Remarks on line transects and strip counts are appended, for completeness.

Grant, P. R. COMMENT ON SIMBERLOFF'S LETTER. *Am. Nat.* 105: 194-197. 1971. [From Auk 89(4), 1972.] *WR 148: 84*
A response to a paper listed below that criticizes Grant's analysis of population sizes between mainland and island congeneric pairs of birds. Author contends that his critic has chosen to answer a question different from the one Grant approached. He concludes that in a move from mainland to island, the density ratios of congeneric pairs of bird species generally increase.

Kendeigh, S. C. A POPULATION COLLAPSE IN THE HOUSE WREN -- OR IS THERE ONE? *Am. Birds* 25: 951. 1971. [From Auk 89(4), 1972.] *WR 148: 84*
"Troglodytes aedon."

Krauss, Werner. BERICHT UEBER DIE INVASION DES SWIDENSCHWANZES *(BOMBYCILLA GARRULUS)* 1970/71 IN BAYERN. [REPORT ON THE WAXWING *(BOMBYCILLA GARRULUS)* 1970/71 INVASION IN BAVARIA.] *Ans. Ornithol. Ges. Bayern* 11(1): 54-57, illus. 1972. [From Biol. Abstr. 54(8), 1972. In German with English summ.] *WR 148: 84*
[Sittenbacher St. 2, Nuernberg, Germany.]

Kumari, E. [THE INVASION OF THE SIBERIAN NUTCRACKER *NUCIFRAGA CARYOCATACTES MACRORHYNCHOS* IN EUROPE IN THE AUTUMN OF 1968.] *Commun. Baltic Comm. Study Bird Migration* 7: 58-83. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 84*

Ramsay, G. W., and J. C. Watt. NOTES ON THE BIRDS OF GREAT ISLAND, THREE KINGS ISLANDS. *Notornis* 18: 287-290. 1971. [From Auk 89(4), 1972.] *WR 148: 84*
Reports changes in the bird fauna following the extermination of goats in 1947.

Rickard, W. H., and Barbara J. Rickard. A COMPARISON OF WINTER BIRD POPULATIONS AFTER A DECADE. *Murrelet* 53(3): 42-47, 1 fig. Sept.-Dec. 1972. *WR 148: 84*
[Battelle-Northwest, Richland, Wash.] "No dramatic changes in bird species composition or abundance during the past decade...no major alterations in the vegetation [in the Benton County, Washington, study area]."

Rustad, Orwin A. TREE SWALLOW NESTING STUDY ON A BLUEBIRD TRAIL IN SOUTH CENTRAL MINNESOTA. *Loon* 44(4): 100-105. Winter 1972. *WR 148: 84*
[1134 East Division Street, Faribault, Minn.]

Simberloff, D. POPULATION SIZES OF CONGENERIC BIRD SPECIES ON ISLANDS. *Am. Nat.* 105: 190-193. 1971. [From Auk 89(4), 1972.] *WR 148: 84*
Grant analyzed bird censuses and concluded that congeneric species differed more from one another in population sizes on islands than on the mainland. This paper criticizes the method of analysis, analyzes the data in a different way, and finds no obvious differences between mainland and island congeneric pairs.

Speek, B. J. [INVASION OF NUTCRACKERS IN THE NETHERLANDS IN 1968.] *Limosa* 44: 11-18. 1971. [From Ibis 115(1), 1973. In Dutch with English summ.] *WR 148: 85*
"Nucifraga caryocatactes."

Stewart, Robert E., and Harold A. Kantrud. POPULATION ESTIMATES OF BREEDING BIRDS IN NORTH DAKOTA. *Auk* 89(4): 766-788, 1 fig. Oct. 1972. *WR 148: 85*
[Northern Prairie Res. Cent., Jamestown, N. Dak.] A total of 11,965 indicated pairs of 131 spp. were recorded during the study. The estimated statewide breeding bird population was about 26 million pairs, or 368 pairs per square mile. Nine orders had breeding populations with statewide frequency values of 10% or more. The order Passeriformes was most abundant, with a statewide frequency of 100% and a projected population of about 21 million pairs (293 pairs per square mile). The order Anseriformes had a frequency of 70.8% and a population of about 2,281,000 pairs (32 pairs per square mile). The other major orders in decreasing magnitude of populations were the Charadriiformes, Gruiformes, Columbiformes, Piciformes, Falconiformes, Galliformes, and Ciconiiformes. --From summ. Courtesy/ Paul A. Stewart.

Stravinski, S., and Y. B. Shchepski. [THE INVASION OF THE NUTCRACKER *NUCIFRAGA CARYOCATACTES MACRORHYNCHOS* IN POLAND IN 1968.] *Commun. Baltic Comm. Study Bird Migration* 7: 44-57. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 85*

Tekke, M. J. [IRRUPTION OF HAWFINCHES *COCCOTHRAUSTES COCCOTHRAUSTES* IN 1969 AND 1970.] *Limosa* 44: 19-22. 1971. [From Ibis 115(1), 1973. In Dutch with English summ.] *WR 148: 85*

BIRDS--ECONOMICS, CONTROL, MORTALITY

Fouarge, J. ENLISEMENT D'UNE CENTAINE D'HIRONDELLES *(DELICHON URBICA* ET *HIRUNDO RUSTICA)* DANS LA VASE. [TRAPPING OF ABOUT A HUNDRED SWALLOWS *(DELICHON URBICA* AND *HIRUNDO RUSTICA)* IN MUD.] *Aves* 8(6): 192. 1971. [From Biol. Abstr. 54(12), 1972. In French.] *WR 148: 85*
[Grand'rue 3C, Ombret, Belgium.] A total of 123 swallows (mostly *D. urbica* and some *H. rustica*) were rescued from the mud of a dried up pond in Vaux-Dorset (Belgium) in which they had become trapped. The factor that attracted the birds to this natural trap could have been a need of water, hunting of insects resting on the mud, or collection of mud for nests.

Guarino, Joseph L. METHIOCARB, A CHEMICAL BIRD REPELLENT: A REVIEW OF ITS EFFECTIVENESS ON CROPS. *Proc. 5th Vertebr. Pest Conf.* p. 108-111. 1972. *WR 148: 85*
[Denver Wildl. Res. Cent., Denver, Colo.] The successful use of methiocarb for preventing damage caused by several species of birds to sprouting corn in several states and to sprouting soybeans in South America is reviewed. Recent results obtained from spraying methiocarb on ripening rice in California, ripening sorghum in Colorado and Oklahoma, cherries in Michigan, and grapes in New Hampshire are summarized.--From abstr.

Mott, Donald F., Jerome F. Besser, Richard R. West, and John W. DeGrazio. BIRD DAMAGE TO PEANUTS AND METHODS FOR ALLEVIATING THE PROBLEM. *Proc. 5th Vertebr. Pest Conf.* p. 118-120. 1972. *WR 148: 85*
[Denver Wildl. Res. Cent., Denver, Colo.] *"Quiscalus quiscula."*

Steyn, P., and R. K. Brooke. COLD INDUCED MORTALITY OF BIRDS IN RHODESIA DURING NOVEMBER 1968. *Ostrich* suppl. no. 8. p. 271-282. 1971. [From Auk 89 (4), 1972.] *WR 148: 85*

Van Steenbergen, G. [THE MORTALITY OF THE BELGIAN BLACKBIRD POPULATION BASED ON RECOVERY DATA.] *Gerfaut* 61: 1-13. 1971. [From Ibis 115(1), 1973. In Flemish with French and English summ.] *WR 148: 86*

Mortality (52.2%) in *Turdus merula* is higher than in Britain, the difference probably being due to hunting pressure in Belgium.

BIRDS--PARASITES & DISEASES

Aliff, John V., and Hugh F. English. *MONOPETALONEMA ALCEDINIS* (RUDOLPHI) (NEMATODA: FILARIIDAE) IN THE EASTERN BELTED KINGFISHER. *Trans. Ky. Acad. Sci.* 32(3/4): 70. 1971. [From Biol. Abstr. 54(9), 1972.] *WR 148: 86*

[Ga. Coll., Milledgeville.] *"Negaceryle alcyon."*

Amerson, A. B., and K. C. Emerson. RECORDS OF MALLOPHAGA FROM PACIFIC BIRDS. *Atoll Res. Bull.* 146. p. 1-30. 1971. [From Ibis 115(1), 1973.] *WR 148: 86*

Lists host species, Mallophaga, and collecting localities of 1,693 Mallophaga of 96 species collected from 66 bird species on 25 islands and at sea in the central, northern and southeastern Pacific between 1963 and 1969.

Bennett, Gordon F., and Marshall Laird. COLLABORATIVE INVESTIGATIONS INTO AVIAN MALARIAS: AN INTERNATIONAL RESEARCH PROGRAMME. *J. Wildl. Dis.* 9(1): 26-28. Jan. 1973. *WR 148: 86*

[Memorial Univ. Newfoundland, St. John's, Newfoundland, Canada.] Review paper.

Bennett, Gordon F., Nathan O. Okia, R. G. Ashford, and A. G. Campbell. AVIAN HAEMOPROTEIDAE, II. *HAEMOPROTEUS ENUCLEATOR* SP. N. FROM THE KINGFISHER, *ISPIDINA PICTA* (BODDAERT). *J. Parasitol.* 58(6): 1143-1147, 7 figs. Dec. 1972. *WR 148: 86*

[Memorial Univ. Newfoundland, St. John's, Newfoundland, Canada.]

Daija, G. [CATALOG OF PARASITIC WORMS OF LATVIAN BIRDS.] *Zool. Muz. Raksti* 7: 97-126. 1971. [From Ibis 115(1), 1973. In Latvian with German summ.] *WR 148: 86*

Davis, John W., Roy C. Anderson, Lars Karstad, and Daniel O. Trainer, editors. INFECTIOUS AND PARASITIC DISEASES OF WILD BIRDS. *Iowa State Univ. Press* (Ames, Iowa). ix + 344 p., illus., 7 x 10 in. 1971. Price $12.50. *WR 148: 86*

Contents: *Newcastle disease*, Steven F. Palmer and Daniel O. Trainer; *Arboviruses*, Lars Karstad; *Duck plague*, Louis Leibovitz; *Pox*, Lars Karstad; *Quail bronchitis*, Robert T. DuBose; *Puffinosis*, Lars Karstad; *Salmonellosis*, James H. Steele and Mildred M. Galton; *Avian cholera*, Merton N. Rosen; *Pseudotuberculosis*, Theodore F. Wetzler; *Tuberculosis*, Nathan B. Gale; *Quail disease (Ulcerative enteritis)*, Malcolm C. Peckham; *Botulism*, Merton N. Rosen; *Chlamydiosis (Ornithosis-psittacosis)*, Robert L. Burkhart and Leslie A. Page; *Erysipelothrix*, Richard D. Shuman; *Listeriosis*, Warren C. Eveland; *Aspergillosis*, David C. O'Meara and J. Franklin Witter; *Candidiasis*, David C. O'Meara and J. Franklin Witter; *Q (Query) fever*, J. Frederick Bell; *Fleas and lice*, E. C. Turner, Jr.; *Nematodes*, Everett E. Wehr; *Coccidia of anseriformes, galliformes, and passeriformes*, Kenneth S. Todd, Jr. and Datus M. Hammond; *Trichomoniasis*, Richard M. Kocan and Carlton M. Herman; Leucocytozoon *Danilewsky 1890*, Robert S. Cook; Haemoproteus *Kruse 1890*, Robert S. Cook; *Lankesterella (Atoxoplasma)*, Edith D. Box; *Toxoplasmosis*, Vance L. Sanger; *Tumors*, Vance L. Sanger; and *Effects of toxic substances*, Rolf Hartung.

Eide, A., A. M. Fallis, A. Brinkmann, Jr., T. Allen, and D. Eligh. HAEMATOZOA FROM NORWEGIAN BIRDS: GENERAL COMMUNICATION. *Arbok Univ. Bergen Mat.-Naturvitensk. Ser.* 6. p. 3-8, illus. 1969. [From Biol. Abstr. 54(8), 1972.] *WR 148: 86*

[Univ. Bergen, Bergen, Norway.] A survey of *Leucocytozoon, Haemoproteus* and *Trypanosoma* of migratory and non-migratory gallinaceous birds is presented.

Herman, Carlton M., J. Hynson, and S. D. Schemnitz. MALARIA IN WOODCOCK AND RUFFED GROUSE IN MAINE. *J. Wildl. Dis.* 8(4): 318. Oct. 1972. *WR 148: 87*
[Memorial Univ. Newfoundland, St. John's, Newfoundland, Canada.] Abstract: *Plasmodium circumflexum* was isolated from woodcock and ruffed grouse by inoculation into bobwhite.

Koyama, Tsutomu, Mitsuyoshi Kumada, Rumiko Ochi, Shiro Nakagawa, and Kazuharu Tashiro. [*TRICHOMONAS GALLINAE* FOUND IN SECRETARY BIRDS *(SERPENTARIUS SECRETARIUS).*] *Japanese J. Parasitol.* 20(6): 495-498. 1971. [From Biol. Abstr. 54 (10), 1972. In Japanese with English summ.] *WR 148: 87*
[Natl. Inst. Health, Tokyo, Japan.]

Lund, Everett E., and Anne M. Chute. *HETERAKIS* AND *HISTOMONAS* INFECTIONS IN YOUNG PEAFOWL, COMPARED TO SUCH INFECTIONS IN PHEASANTS, CHICKENS, AND TURKEYS. *J. Wildl. Dis.* 8(4): 352-358, 1 fig. Oct. 1972. *WR 148: 87*
[Agric. Res. Serv., Beltsville, Md.]

McClure, H. Elliott, Niphan Ratanaworabhan, and others. SOME ECTOPARASITES OF THE BIRDS OF ASIA. *Migratory Anim. Pathol. Surv. SEATO Med. Lab.* (APO San Francisco, Calif.). v + 219 p. [1972.] *WR 148: 87*
Abstract: During the period July 1963 to July 1971 ectoparasites were collected from the birds of eastern Asia; Korea, Japan, Taiwan, Hong Kong, Philippines, Thailand, Borneo, Indonesia, Singapore and India. From the more than 15000 collections there were 238 genera and 564 species of arthropods represented. The number of avian hosts examined included 743 species. Of the parasite species Acarina made up 34.3%, Mallophaga 53% and Hippoboscidae 9.5%. Annotated lists of the host-parasite and the parasite-host relationships are given.

Pence, Danny B. THE NASAL MITES OF BIRDS FROM LOUISIANA IV. THE GENUS *PTILONYSSUS* (DERMANYSSIDAE: RHINONYSSINAE) WITH A DESCRIPTION OF TWO NEW SPECIES. *J. Parasitol.* 58(6): 1162-1169, 14 figs. Dec. 1972. *WR 148: 87*
[La. State Univ. Med. Cent., New Orleans.]

Pence, Danny B. THE NASAL MITES OF BIRDS FROM LOUISIANA. V. THE EPIDERMOPTIDAE (TURBINOPTINAE) AND A DESCRIPTION OF THE MALE OF *CYTONYSSUS TROGLODYTI* PENCE (CYTODITIDAE). *J. Parasitol.* 58(6): 1170-1177, 26 figs. Dec. 1972. *WR 148: 87*
[La. State Univ. Med. Cent., New Orleans.]

Schmidt, Gerald D. CYCLOPHYLLIDEAN CESTODES OF AUSTRALIAN BIRDS, WITH THREE NEW SPECIES. *J. Parasitol.* 58(6): 1085-1094, 22 figs. Dec. 1972. *WR 148: 87*
[Univ. Northern Colo., Greeley.]

Schmidt, Gerald D., and Albert O. Bush. *PARVITAENIA IBISAE* SP. N. (CESTOIDEA: DILEPIDIDAE), FROM BIRDS IN FLORIDA. *J. Parasitol.* 58(6): 1095-1097, 6 figs. Dec. 1972. *WR 148: 87*
[Univ. Northern Colo., Greeley.]

Steiniger, F. TRANSPORT OF MICRO-ORGANISMS BY MIGRATORY BIRDS BETWEEN EUROPE AND SOUTH AFRICA, IN RELATION TO BIRD-RINGING AND DISINFECTION. *Ostrich* suppl. no. 8. p. 283-297. 1971. [From Auk 89(4), 1972.] *WR 148: 87*

Sulgostowska, Teresa, and Wanda Korpaczewska. HELMINTH FAUNA OF BIRDS OF TWO POND SYSTEMS OF THE MILICZ PONDS RESERVE. *Acta Parasitol. Pol.* 20(1-11): 75-94, illus. 1972. [From Biol. Abstr. 54(12), 1972. In English with Polish summ.] *WR 148: 87*
[Warsaw Univ., Warsaw, Poland.]

Walters, J. INFESTATION OF SWALLOWS BY LOUSE-FLIES. *Bird Study* 18: 31-33. 1971. [From Bird-Banding 43(2), 1972.] *WR 148: 87*
"Hirundo rustica."

GAME BIRDS--GENERAL

Feekes, Francisca. "IRRELEVANT" GROUND PECKING IN AGONISTIC SITUATIONS IN BURMESE RED JUNGLEFOWL *(GALLUS GALLUS SPADICEUS)*. *Behaviour* 43(1-4): 186-326, 26 figs. 1972. In English with German summ. *WR 148: 88*
[Univ. Groningen, Groningen, Netherlands.] The topic is discussed in six chapters: I. Introduction, II. The control of ground pecking by factors influencing feeding, III. The control of ground pecking by factors associated with agonistic situations, IV. Pecking at polythene particles, V. Further analysis of the threat-associated factors, and VI. General discussion.

Taylor, W. Hassel. FOREIGN GAME BIRD STOCKINGS AND RESULTS IN VIRGINIA. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 165-175, 5 [figs.]. 1972. *WR 148: 88*
[Va. Comm. Game & Inland Fisheries, Richmond.]

QUAIL

Bell, Michael W., and Donald A. Klebenov. HURRICANE IMPACT ON BOBWHITE COVER. *Southwestern Nat.* 17(4): 433-435, [1 fig.]. 10 Jan. 1973. *WR 148: 88*
[Tex. Tech Univ., Lubbock.]

Dickson, James G. FOOD HABITS OF THE BOBWHITE QUAIL IN THE GEORGIA PIEDMONT. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 281-285. 1972. *WR 148: 88*
[Univ. Ga., Athens.] Individual food items found in over nine per cent of the crops containing food *and* comprising over one per cent of the total weight arranged in decreasing order were: common lespedeza, corn, sericea lespedeza, unidentified lespedeza, leaf material, acorns, and Korean lespedeza.--From summ.

Dimmick, Ralph W. THE INFLUENCE OF CONTROLLED BURNING ON NESTING PATTERNS OF BOBWHITE IN WEST TENNESSEE. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 149-155, 2 figs. 1972. *WR 148: 88*
[Univ. Tenn., Nashville.] "In summary, controlled burning of nest habitat on Ames Plantation exerted a measurable impact upon the distribution of quail nests and upon the chronology of nesting. The proportion of nesting attempts which were successful was not significantly greater in either burned or unburned habitats during the study period. Associated environmental conditions, *i.e.*, populations of associated species of animals, and regional agricultural practices, could in some years disproportionately alter nesting success on burned areas if the effect were concentrated in late summer."

Dudley, E. P. V. DEVELOPMENT OF CHICKS OF THE HARLEQUIN QUAIL. *Ostrich* 42: 79-80. 1971. *WR 148: 88*
[Peterhouse, P. Bag 741, Marandellas, Rhodesia.] *"Coturnix delegorguei."*

Kellogg, Forest E., and Gary L. Doster. BOBWHITE QUAIL: TOTAL HUNTER KILL COMPARED TO NUMBER RETRIEVED. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 147-149. 1972. *WR 148: 88*
[Univ. Ga., Athens.] Abstract: Thirty-one different hunters using 24 different bird dogs flushed 5691 bobwhites *(Colinus virginianus)* in 572 man hours of hunting. Hunters fired 2639 shots and retrieved 846 bobwhites (3.1 shots/bird retrieved). For every three birds in the bag, one dead or crippled bird was left in the field. All hunting was done on an area which had a bobwhite density greater than one bird per acre.

Kreitzer, J. F. THE EFFECT OF EMBRYONIC DEVELOPMENT ON THE THICKNESS OF THE EGG SHELLS OF COTURNIX QUAIL. *Poultry Sci.* 51(5): 1764-1765. Sept. 1972. *WR 148: 88*
[Patuxent Wildl. Res. Cent., Laurel, Md.] Abstract: The average thickness of the shells from 75 unincubated coturnix quail eggs was found to be 0.193 mm. This was 7.3 percent greater than the average thickness (0.179 mm.) of the shells from 60 fully incubated eggs from the same hens. The two sets of eggs were collected simultaneously. This thickness difference was statistically significant (t-test:$p<0.005$).

Mendelssohn, H., U. Marder, and Y. Yom-Tov. ON THE DECLINE OF MIGRANT QUAIL *(COTURNIX C. COTURNIX)* POPULATIONS IN ISRAEL AND SINAI. *Israel J. Zool.* 18: 317-323, 3 figs. 1969. *WR 148: 89*
[Tel Aviv Univ., Tel Aviv, Israel.]

Percival, H. Franklin, and Lloyd G. Webb. NOTES ON REPRODUCTIVE SUCCESS OF PEN-REARED BOBWHITE QUAIL EQUIPPED WITH RADIO-TELEMETRIC TRANSMITTERS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 286-289. 1972. *WR 148: 89*
[Clemson Univ., Clemson, S.C.] Abstract: Ten pairs of pen-reared bobwhite quail *(Colinus virginianus virginianus* L.*)* were studied in an effort to determine the mechanical effect of radio-telemetric transmitters on fertilization. Five pairs of quail were equipped with transmitters weighing approximately 24 grams and measuring approximately 2 x 2 x 3.7 centimeters. The remaining 5 pairs without transmitters were maintained under similar conditions. Records were maintained on production, fertility, and hatchability. Such data recorded at two-week intervals throughout the laying season showed that the radio-telemetric transmitters had no adverse effect on the reproductive success of pen-reared quail.

Potash, L. M. NOISE-INDUCED CHANGES IN CALLS OF THE JAPANESE QUAIL. *Psychonomic Sci. Sect. Anim. Physiol. Psychol.* 26(5): 252-254. 1972. [From Biol. Abstr. 54(7), 1972.] *WR 148: 89*
[Univ. Alberta, Edmonton, Alberta, Canada.]

Potash, Lawrence M. A SIGNAL DETECTION PROBLEM AND POSSIBLE SOLUTION IN JAPANESE QUAIL *(COTURNIX COTURNIX JAPONICA). Anim. Behav.* 20(1): 192-195, 1 fig. Feb. 1972. *WR 148: 89*
[Univ. Alberta, Edmonton, Alberta, Canada.] Abstract: The ambient noise level in the environment of most species varies and consequently many animals that use acoustic signals are faced with a potential signal detection problem. A male Japanese quail emits separation crowing when separated from a female with which it has paired. These separation crows tend to be emitted in temporal groups or bouts. This study demonstrates that the ambient noise level affects the emission of separation crowing. The two related changes in emission of separation crowing found in this study were: (a) increasing the frequency of separation crowing; and (b) increasing the number of crows per bout. These related changes should help to increase the detectability of the signal and the localizability of the transmitter.

Schein, Martin W., and Carol Sue Carter. SEXUAL BEHAVIOUR AND NOVEL STIMULI IN MALE JAPANESE QUAIL *(COTURNIX COTURNIX JAPONICA). Anim. Behav.* 20(2): 383-385, 1 fig. May 1972. *WR 148: 89*
[W. Va. Univ., Morgantown.]

Schein, Martin W., Milton Diamond, and Carol Sue Carter. SEXUAL PERFORMANCE LEVELS OF MALE JAPANESE QUAIL *(COTURNIX COTURNIX JAPONICA). Anim. Behav.* 20(1): 61-67. Feb. 1972. *WR 148: 89*
[W. Va. Univ., Morgantown.] Abstract: Sexual performance levels of twenty-five male Japanese quail presented with new females after each copulation were measured until each reached an arbitrary satiation criterion of no sexual behaviour during twenty consecutive minutes. Sexual activity was most frequent within the first 5 min of observation. The males averaged about three copulations per male (range 0 to 9) before reaching satiation, but experienced males with experienced females were more efficient (in terms of latency to perform and success of initial approaches) than were inexperienced males with inexperienced females. Observations also suggested that the behaviour of the female is an important determinant governing sexual performance levels of males.

Schwartz, Charles C. THE BOBWHITE IN IOWA -- 1971. *Iowa Wildl. Res. Bull.* no. 2. iv + 12 p., 2 figs. Oct. 1972. *WR 148: 89*
[Iowa State Conserv. Comm., Des Moines.] Introduction: This bulletin is the first in a series, and contains data collected on the bobwhite quail in Iowa

during the 1971 season. In order to manage and more fully understand this wildlife species, certain year-to-year information must be collected, compiled and published. Surveys discussed include: (1) winter brood stock survival and spring breeding prospects, (2) nest initiation and hatching dates, (3) whistling cock quail counts, (4) fall population prospects, (5) hunting season dates and weather and (6) hunter harvest and success. In addition, certain background information regarding the history and distribution of the bobwhite in Iowa is presented.

Sefton, Arnold Edward. MATING BEHAVIOR OF JAPANESE QUAIL *(COTURNIX COTURNIX JAPONICA). Ph.D. thesis, Va. Polytech. Inst.* 95 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(4), 1972.] *WR 148: 90*

Seitz, William K., and Roger Q. Landers. CONTROLLED BURNING IN RELATIONSHIP TO BOBWHITE QUAIL POPULATIONS ON A SOUTHERN IOWA PUBLIC HUNTING AREA. *Iowa State J. Res.* 47(2): 149-165, 1 fig. Nov. 1972. *WR 148: 90*

[Iowa State Univ., Ames.] The first recorded quail activity on the burned study plots was May 5, 35 days after the burning. The proportion of quail sightings on the burned areas to those on control areas was 7 of 61 (11%) in May, 14 of 56 (25%) in June, 9 of 21 (43%) in July, and 10 of 17 (59%) in August. Results of Chi-square tests showed that the proportion of all observations that occurred on burned plots increased significantly from May through August but particularly between May through June. A continued program of early spring burning on an experimental and demonstration plot basis is recommended for the Mount Ayr Game Management Area.--From abstr.

Tomlinson, Roy E. REVIEW OF LITERATURE ON THE ENDANGERED MASKED BOBWHITE. *U.S. Bur. Sport Fish. Wildl. Resour. Publ.* 108. iv + 28 p., 1 fig., 8 pls. Sept. 1972. For sale by Supt. Documents, GPO, Washington, D.C., at 35¢. *WR 148: 90*

[Patuxent Wildl. Res. Cent., Laurel, Md.] Abstract: The masked bobwhite *(Colinus virginianus ridgwayi)* once inhabited restricted areas in southern Arizona and middle Sonora, Mexico. It probably never was a widespread and abundant bird. Ornithologists discovered this race in 1884, presumably during its final decline in Arizona due to overgrazing and a series of droughts. It was gone from Arizona by 1900. Apparently the bird was not seriously threatened in Sonora until the 1940's when the cattle industry increased there. Only small and scattered populations remain in Sonora today. Although behavior of the masked bobwhite is similar to that of the closely-related eastern bobwhite *(C. v. virginianus)*, the desert variety prefers a mesquite-grassland habitat at elevations of from 1,000 to 4,000 feet, has a later and shorter nesting season, and has more striking sexual plumage. The male's black head and "robin's red" breast readily identify the bird. Average annual precipitation in the heart of its Sonoran habitat is 13.5 inches, with 75 percent of that occurring during the 3-month period of July through September. Foods consist of small weed and grass seeds, supplemented with invertebrates and green vegetational growth during the summer rainy season. Early attempts at reintroduction of masked bobwhites into Arizona failed. Experiments on propagation and reestablishment and a life history study are currently being carried out by the Bureau of Sport Fisheries and Wildlife in cooperation with the Arizona Fish and Game Department.

Tortora, Daniel F., and Peter L. Borchelt. THE EFFECT OF ESCAPE RESPONSES ON IMMOBILITY IN BOBWHITE QUAIL *(COLINUS VIRGINIANUS). Psychonomic Soc. Sect. Anim. Physiol. Psychol.* 27(3): 129-130, illus. 1972. [From Biol. Abstr. 54(12), 1972.] *WR 148: 90*

[Mich. State Univ., Lansing.]

Webb, Lloyd G., and Frank P. Nelson. RECOVERY DATA FROM PEN-RAISED QUAIL RELEASED BEFORE AND DURING THE HUNT SEASON. *Proc. 26th Ann. Conf. SE Assoc. Game Fish Comm.* p. 140-147. 1972. *WR 148: 90*

[Clemson Univ., Clemson, S.C.]

QUAIL--Continued

Wilson, Margo I., and Gordon Bermant. AN ANALYSIS OF SOCIAL INTERACTIONS IN JAPANESE QUAIL, *COTURNIX COTURNIX JAPONICA*. *Anim. Behav.* 20(2): 252-258, 3 figs. May 1972. *WR 148: 91*
[Bethlem Roy. Hospital, Monks Orchard Road, Beckenham, Kent, England.]

PHEASANTS

Anderson, William L. DYNAMICS OF CONDITION PARAMETERS AND ORGAN MEASUREMENTS IN PHEASANTS. *Ill. Nat. Hist. Surv. Bull.* 30(8): 455-498, 6 figs. + frontispiece. July 1972. *WR 148: 91*
"In this investigation, body weight -- i.e., the weight of the entire bird -- and the weights of muscular tissues and of fat deposits were used as indices of physical condition. Data on weights or measurements of visceral organs and of endocrine glands are presented and discussed primarily as they relate to changes in the physical condition and seasonal activities of pheasants."

Stockdale, P. H. G., O. Remmler, and M.-A. Fernando. PULMONARY LESIONS IN PHEASANTS IMMUNIZED AGAINST *SYNGAMUS TRACHEA* BY CHEMICALLY ABBREVIATED INFECTIONS. *Avian Dis.* 16(5): 980-985, 5 figs. Oct.-Dec. 1972. *WR 148: 91*
[Univ. Guelph, Guelph, Ontario, Canada.]

GROUSE, PARTRIDGE, ETC.

Bakhutov, V. A. [STUDY OF THE CHANGE IN THE POPULATION OF THE WILLOW GROUSE IN THE BOL' SHEZEMEL'SKII TUNDRA, ON YAMAL AND TAIMYR.] *Ekologiya* 2(3): 100-101, illus. 1971. [From Biol. Abstr. 54(7), 1972. In Russian.] *WR 148: 91*
"Lagopus lagopus."

Malafgev, Y. M. [DYNAMICS OF THE SIZE OF BLACK GROUSE BREEDING AREAS IN THE SVERDLOVSK OBLAST.] *Ekologiya* 2(6): 87-89, illus. 1971. [From Biol. Abstr. 54(8), 1972. In Russian.] *WR 148: 91*
[Inst. Plant Anim. Ecol., Ural Div., Acad. Sci. USSR, Sverdlovsk, USSR.]

Moss, R., and J. A. Parkinson. THE DIGESTION OF HEATHER *CALLUNA VULGARIS* BY RED GROUSE *LAGOPUS LAGOPUS SCOTICUS*. *British J. Nutrition* 27: 285-298. 1972. [From Ibis 115(1), 1973.] *WR 148: 91*

Oko, Zdzislaw. SKLAD JAKOSCIOWY I ILOSCIOWY GASTROLITOW KUROPATWY *PERDIX PERDIX* (L.). [THE QUANTITATIVE AND QUALITATIVE COMPOSITION OF GASTROLITHS IN PARTRIDGES *PERDIX PERDIX* (L.).] *Przegl. Zool.* 15(3): 305-307, illus. 1971. [From Biol. Abstr. 54(8), 1972. In Polish with English summ.] *WR 148: 91*
[Katedra Zool., Wyzszej Szk. Roln., Poznan, Poland.]

Uloth, W. DAS CHUKAR-STEINHUHN, *ALECTORIS GRAECA CHUCAR* (GRAY), AUSSERHALB SEINES NATUERLICHEN VERBREITUNGSGEBIETES. [THE CHUKAR PARTRIDGE, *ALECTORIS GRAECA CHUCAR* (GRAY), OUTSIDE OF ITS NATURAL AREA OF DISTRIBUTION.] *Z. Jagdwiss.* 18(1): 39-40. 1972. [From Biol. Abstr. 54(12), 1972. In German.] *WR 148: 91*

Voronin, R. N. [AGE CHANGES IN THE LEVEL OF MORPHOLOGICAL AND PHYSIOLOGICAL INDICES VARIABILITY OF THE WILLOW PTARMIGAN.] *Ekologiya* 2(6): 96-97. 1971. [From Biol. Abstr. 54(8), 1972. In Russian.] *WR 148: 91*
[Inst. Plant Anim. Ecol., Ural Div., Acad. Sci. USSR, Sverdlovsk, USSR.]

Weber, David A. BLUE GROUSE ECOLOGY AND HABITAT REQUIREMENTS IN NORTH CENTRAL UTAH. *M.S. thesis, Utah State Univ.* viii + 75 p., 14 figs. 1972. *WR 148: 91*
The ecology and habitat requirements of a population of blue grouse *(Dendragapus obscurus)* were studied during 1970 and 1971 on the Cache National Forest in northern Utah.--From abstr.

Weeden, Robert B. EFFECTS OF HUNTING ON ROCK PTARMIGAN ALONG THE STEESE HIGHWAY. *Alaska Dep. Fish Game Wildl. Tech. Bull.* no. 2. iii + 21 p. July 1972. *WR 148: 92*
[Univ. Alaska, College.] In a comparison of spring populations in an unhunted area with those in an area from which 40% of the fall population was shot in 1967 and 1968 showed that spring breeding stocks were unaffected by hunting pressure of that magnitude. A variety of techniques are available to the game manager to manipulate harvests or maintain the quality of recreation derived from ptarmigan hunting at Eagle Summit. These are discussed in the text.--From summ.

Wenstrom, William P., Phillip V. Vanderschaegen, and Gordon W. Gullion. RUFFED GROUSE PRIMARY MOLT CHRONOLOGY. *Auk* 89(3): 671-673, 1 fig. July 1972. *WR 148: 92*
[Univ. Minn., St. Paul.] *"Bonasa umbellus."*--Courtesy/ Paul A. Stewart.

Yalden, D. W. THE RED GROUSE *(LAGOPUS LAGOPUS SCOTICUS* (LATH.)) IN THE PEAK DISTRICT. *Naturalist* 922: 89-102. 1972. [From Ibis 115(1), 1973.] *WR 148: 92*

Zwickel, Fred C. GRAZING AND PREDATION ON BLUE GROUSE. *Murrelet* 53(3): 52-53. Sept.-Dec. 1972. *WR 148: 92*
[Univ. Alberta, Edmonton, Alberta, Canada.] *"Dendragapus obscurus."*

TURKEY

Gardner, Daniel Thomas. DYNAMICS OF A RECENTLY ESTABLISHED WILD TURKEY POPULATION IN THE ALABAMA PIEDMONT. *Ph.D. thesis, Auburn Univ.* 101 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 92*

Hamrick, William J., and James R. Davis. SUMMER FOOD ITEMS OF JUVENILE WILD TURKEYS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 85-89, 1 fig. 1972. *WR 148: 92*
[Ala. Dep. Conserv. & Natur. Resour., Montgomery.] By volume, vegetable materials comprised 73.2% and animal materials 26.8% of the diet. Grasses, primarily seeds, represented 61.5% of the total volume with bahia grass *(Paspalum notatum)* seed comprising 48.6%. Grasshoppers were the most important animal food representing 15.5% of the total volume. Grasses and grasshoppers made up 77% of the total volume, indicating the importance of openings as a source of summer foods.--From abstr.

Kirkpatrick, Ralph D., Marsha R. Roy, Gerald A. Wise, and Leland L. Hardman. CONTENTS OF SOUTHERN INDIANA WILD TURKEY DROPPINGS. *Proc. Ind. Acad. Sci. 1971* 81: 165-168. 1972. *WR 148: 92*
[Ball State Univ., Muncie, Ind.] Abstract: Food item volume percentages were determined of the contents of 207 adult and 84 juvenile wild turkey droppings collected over 4 seasons. Material found in order of decreasing volume percentages was Gramineae seeds; soil and organic debris (including grit); unidentified plant material (leaves and stems); insect parts; various seeds of *Quercus* sp., *Cornus* sp. and *Smilax* sp. The Gramineae constitutes a large portion of the diet over all seasons with the large seeds from small woody species being important only in the fall and winter. Insects probably are not a large part of the diet of either adult or juvenile wild turkeys.

Williams, Lovett E., Jr., David H. Austin, Tommie E. Peoples, and Robert W. Phillips. LAYING DATA AND NESTING BEHAVIOR OF WILD TURKEYS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 90-106, 5 figs. 1972. *WR 148: 92*
[Fla. Game & Fresh Water Fish Comm., Gainesville.] This paper reports on the behavior of nesting wild turkeys *(Meleagris gallopavo osceola)* obtained by radio-tracking 97 wild hens during the spring and summer of 1968 through 1971 on two study areas in Florida.--From abstr.

Erchenkov, V. [ON THE FUNCTIONAL ORGANIZATION OF THE PIGEON VISUAL ANALYZER.] *Vestn. Mosk. Univ. Ser. Biol.* 25(5): 81-84. 1970. [From Bird-Banding 43(2), 1972. In Russian.] *WR 148: 93*

Erickson, Carl J., and Robert L. Morris. EFFECTS OF MATE FAMILIARITY ON THE COURTSHIP AND REPRODUCTIVE SUCCESS OF THE RING DOVE *(STREPTOPELIA RISORIA). Anim. Behav.* 20(2): 341-344. May 1972. *WR 148: 93*
[Duke Univ., Durham, N.C.] Abstract: Sexually experienced male ring doves mated with former female mates exhibited lower levels of the bow-cooing display than did similarly experienced males paired with unfamiliar females. Pairs of unfamiliar animals were less successful in hatching eggs. However, there were no significant differences in the number of eggs laid, egg laying latency, or success of raising squabs.

Kocan, R. M., and H. F. Hasenclever. NORMAL YEAST FLORA OF THE UPPER DIGESTIVE TRACT OF SOME WILD COLUMBIDS. *J. Wildl. Dis.* 8(4): 365-368. Oct. 1972. *WR 148: 93*
[Patuxent Wildl. Res. Cent., Laurel, Md.] Seven species of pigeons and doves were cultured for yeasts in the upper digestive tract. No signs of disease could be seen in the 139 birds that were examined, and it was concluded that these yeasts comprise a part of the columbid's normal microbial flora.--From abstr.

Ljunggren, L. [TENDENCIES TO STRESS IN WOOD-PIGEONS *COLUMBA PALUMBUS*.] *Vår Fågelvärld* 30: 232-235. 1971. [From Ibis 115(1), 1973. In Swedish with English summ.] *WR 148: 93*

Murton, R. K., R. J. P. Thearle, and J. Thompson. ECOLOGICAL STUDIES OF THE FERAL PIGEON *COLUMBA LIVIA* VAR. I. POPULATION, BREEDING BIOLOGY AND METHODS OF CONTROL. *J. Appl. Ecol.* 9(3): 835-874, 11 figs. Dec. 1972. *WR 148: 93*
[Nature Conservancy, Monks Wood Exp. Sta., Abbots Ripton, Huntingdon, England.]

Murton, R. K., C. F. B. Coombs, and R. J. P. Thearle. ECOLOGICAL STUDIES OF THE FERAL PIGEON *COLUMBA LIVIA* VAR. II. FLOCK BEHAVIOUR AND SOCIAL ORGANIZATION. *J. Appl. Ecol.* 9(3): 875-889, 6 figs. Dec. 1972. *WR 148: 93*
[Nature Conservancy, Monks Wood Exp. Sta., Abbots Ripton, Huntingdon, England.]

Robinson, Lawrence H. "DOVE" PROSO MILLET--NEW MOURNING DOVE FOOD? *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 137-140. 1972. *WR 148: 93*
[Soil Conserv. Serv., Walterboro, S.C.] *"Panicum miliaceum."*

Staddon, J. E. R. A NOTE ON THE ANALYSIS OF BEHAVIOURAL SEQUENCES IN *COLUMBA LIVIA. Anim. Behav.* 20(2): 284-292, 5 figs. May 1972. *WR 148: 93*
[Duke Univ., Durham, N.C.]

Warner, Robert W. THE SYRINX IN FAMILY COLUMBIDAE. *J. Zool.* (London) 166(3): 385-390, illus. 1972. [From Biol. Abstr. 54(10), 1972.] *WR 148: 93*
[76 Biggin Hill, London, England.]

Woldow, Norman Lloyd. STUDIES ON THE REPRODUCTIVE CAPACITIES OF BIRDS WITH A FIELD STUDY OF THE FERAL ROCK DOVE, *COLUMBA LIVIA*, L., IN THE URBAN ENVIRONMENT. *Ph.D. thesis, Rice Univ.* 169 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33 (4), 1972.] *WR 148: 93*
The population level attained by the urban population is determined largely by the relationship of architecture and inclemencies of the weather. Shelter from the elements is a primary requirement.

Austin, F. G., and H. E. Welch. THE OCCURRENCE, LIFE CYCLE, AND PATHOGENICITY OF *ECHINURIA UNCINATA* (RUDOLPHI, 1819) SOLOVIEV, 1912 (SPIRURIDA, NEMATODA) IN WATER FOWL AT DELTA, MANITOBA. *Canadian J. Zool.* 50(4): 385-393, illus. 1972. [From Biol. Abstr. 54(12), 1972. In English with French summ.] *WR 148: 94*
[Natl. Nav. Med. Cent., Bethesda, Md.]

Bartonek, James C. SUMMER FOODS OF AMERICAN WIDGEON, MALLARDS, AND A GREEN-WINGED TEAL NEAR GREAT SLAVE LAKE, N.W.T. *Canadian Field Nat.* 86(4): 373-376. Oct.-Dec. 1972. *WR 148: 94*
[Northern Prairie Wildl. Res. Cent., Jamestown, N. Dak.]

Bennett, G., and H. T. Laycock. AN IMPROVED ENVIRONMENT FOR WATER BIRDS AT PEATTIE'S LAKE. *S. African Avifauna Ser. Percy FitzPatrick Inst. African Ornithol.* no. 84. 13 p. 1972. Price 20¢. *WR 148: 94*
Includes an annotated list of birds recorded for this lake near Pietermaritzburg, Natal.

Benson, Dirck, and Stephen D. Browne. ESTABLISHING BREEDING COLONIES OF REDHEADS IN NEW YORK BY RELEASING HAND-REARED BIRDS. *N.Y. Fish Game J.* 19(1): 59-72, 4 figs. Jan. 1972. *WR 148: 94*
[N.Y. State Dep. Environ. Conserv., Albany.]

Berndt, R. K. DAS WASSERVOGELLEBEN IM WINTERHALBJAHR 1969/70 IM BEREICH DER OSTKÜSTE SCHLESWIG-HOLSTEINS. [THE WATERFOWL ACTIVITY DURING WINTER 1969/70 IN SCHLESWIG-HOLSTEIN EAST-COAST AREA.] *Corax* 4 (suppl. 1): 58-85. 1971. [From Ibis 115(1), 1973. In German.] *WR 148: 94*

Berndt, R. K. BRUTVORKOMMEN UND BRUTBIOLOGIE DER TAFELENTE, *AYTHYA FERINA*, IN SCHLESWIG-HOLSTEIN UND HAMBURG. [BREEDING STATUS AND BIOLOGY OF THE POCHARD *AYTHYA FERINA* IN SCHLESWIG-HOLSTEIN AND HAMBURG.] *Corax* 4: 29-40. 1972. [From Ibis 115(1), 1973. In German.] *WR 148: 94*

Bunch, Thomas David. EFFECTS OF DIELDRIN ON CHROMOSOMES OF BONE MARROW AND LYMPHOCYTES OF THE SEMI-DOMESTIC MALLARD DUCK. *Ph.D. thesis, Utah State Univ.* 49 p. 1971. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973.] *WR 148: 94*

Couch, F. G., G. W. Kaiser, and L. Wight. SPECIES OF WATERFOWL AND AGE AND SEX RATIOS OF DUCKS HARVESTED IN CANADA DURING THE 1971 SEASON. *Canadian Wildl. Serv. Prog. Notes* no. 29. viii + 52 p. Aug. 1972. In English and French. *WR 148: 94*
[Canadian Wildl. Serv., Ottawa, Ontario, Canada.]

Dyrcz, A. [THE PASSAGE AND WINTERING OF WATER BIRDS ON THE ODRA NEAR WROCLAW.] *Acta Zool. Cracov.* 16: 291-308. 1971. [From Ibis 115(1), 1973. In Polish with English summ.] *WR 148: 94*

Fogarty, Michael J., and David E. LaHart. FLORIDA DUCK MOVEMENTS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 191-202, 6 figs. 1972. *WR 148: 94*
[Fla. Game & Fresh Water Fish Comm., Tallahassee.] Abstract: During the summers of 1969 and 1970, 668 Florida Ducks *(Anas platyrhynchos fulvigula*, Ridgway*)* were banded from an inland and two coastal breeding populations. Of the 81 band returns, 51 (63.0%) were recovered 10 to 270 miles from the release sites. Most of the ducks (71.4%) were recovered within 49 miles of the release sites.

Gottschalk, C. WASSERVÖGEL UND PARASITEN. [WATERFOWL AND PARASITES.] *Beitr. Vogelkunde* 17: 286-296. 1971. [From Ibis 115(1), 1973. In German.] *WR 148: 94*
A review of the incidence of important groups of endoparasites in their waterfowl hosts.

Grachev, V. A. [SUMMER COUNT OF WATER BIRDS ON ALAKULSKIE LAKE LAKES.] *Sb. Nauchno-Tekh. Inf. Vses. Nauchno-Issled. Inst. Okhotnogo Khoz. Zverovod.* 31. p. 39-41. 1970. [From Biol. Abstr. 54(9), 1972, from Ref. Zh. Biol., 1971, no. 7I450.] *WR 148: 95*

Grandy, John Walton IV. WINTER ECOLOGY OF MARITIME BLACK DUCKS *(ANAS RUBRIPES)* IN MASSACHUSETTS: WITH SPECIAL REFERENCE TO NAUSET MARSH, ORLEANS AND EASTHAM. *Ph.D. thesis, Univ. Mass.* 124 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(6), 1972.] *WR 148: 95*

Havlin, Jiri. DIFFERENCES IN THE BREEDING SUCCESS OF THE POCHARD *(AYTHYA FERINA)* AND THE TUFTED DUCK *(AYTHYA FULIGULA). Zool. Listy* 21(1): 85-95. 1972. [From Biol. Abstr. 54(12), 1972.] *WR 148: 95*
[Inst. Vertebr. Zool., Czech. Acad. Sci., Brno, Czechoslovakia.]

Heaton, Marieta Barrow. PRENATAL AUDITORY DISCRIMINATION IN THE WOOD DUCK *(AIX SPONSA). Anim. Behav.* 20(3): 421-424. Aug. 1972. *WR 148: 95*
[Dorothea Dix Hospital, Raleigh, N.C.] Abstract: Wood duck embryos were tested to the wood duck maternal call or the mallard maternal call. The group receiving the species-specific call increased bill-clapping during stimulus presentation, and the group receiving the mallard call decreased. Since the wood duck's postnatal behaviour with respect to the species-specific call is inconsistent, the possibility is discussed that the demonstrated prenatal specificity may require some sort of supportive auditory input, perhaps similar to that occurring in the natural situation, in order that it be maintained and carried over for functional significance into postnatal life.

Jacoby, V. E., and A. Jögi. [THE MOULT MIGRATION OF THE COMMON SCOTER IN THE LIGHT OF RADAR AND VISUAL OBSERVATIONAL DATA.] *Commun. Baltic Comm. Study Bird Migration* 7: 118-139. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 95*
"Melanitta nigra."

Karpovich, V. N., B. V. Kester, and L. O. Belopolski. [THE ACTUAL STATE OF THE NESTING OF THE EIDER IN THE KANDALAKSHA STATE NATURE RESERVE.] *Commun. Baltic Comm. Study Bird Migration* 7: 140-153. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 95*
Changes in numbers of breeding *Somateria mollissima* during a 30-year period are presented.

Kear, J., and T. H. Steel. ASPECTS OF SOCIAL BEHAVIOUR IN THE BLUE DUCK. *Notornis* 18: 187-198. 1971. [From Auk 89(4), 1972.] *WR 148: 95*

Kerwin, James A., and Lloyd G. Webb. FOODS OF DUCKS WINTERING IN COASTAL SOUTH CAROLINA, 1965-1967. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 223-245, [1 fig.]. 1972. *WR 148: 95*
[Patuxent Wildl. Res. Cent., Laurel, Md.]

Koning, F. J. TRAPPING DUCKS WITH A FLOATING CLAPNET. *Ring* 6(64-65): 65-66. 1970. [From Bird-Banding 43(3), 1972.] *WR 148: 95*

Kozlovskii, I. S. [POPULATION STRUCTURE AND FATNESS OF FLAT-BILLED DUCKS DURING MOLTING IN CENTRAL KAZAKHSTAN.] *Trudy Kirov. S-kh. Inst.* 22(52): 33-38. 1970. [From Biol. Abstr. 54(7), 1972, from Ref. Zh. Biol., 1971, no. 7I449. In Russian.] *WR 148: 95*

Krapu, Gary Lee. FEEDING ECOLOGY OF THE PINTAIL *(ANAS ACUTA)* IN NORTH DAKOTA. *Ph.D. thesis, Iowa State Univ.* 91 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 95*

Kurochkin, E. N. [STRUCTURAL ADAPTATIONS AND LOCOMOTION OF WATER BIRDS.] *Zool. Pozvonochnikh* 1969: 94-135, 10 figs. 1971. In Russian. *WR 148: 96*

Labuda, S. E., Jr. TREE DUCK-WOOD DUCK EGG PARASITISM. *Bull. Tex. Ornithol. Soc.* 3: 28. 1969. [From Auk 89(4), 1972.] *WR 148: 96*

Lavery, H. J. STUDIES OF WATERFOWL (ANATIDAE) IN NORTH QUEENSLAND: VI. FEEDING METHODS AND FOODS. *Queensland J. Agric. Anim. Sci.* 28(4): 255-273, illus. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 96*
[Queensland Dep. Primary Ind., Townsville, Queensland, Australia.] The feeding habits of 14 spp. of waterfowl occurring in north Queensland during 1958-1968 are described.

Lavery, H. J., and J. G. Blackman. STUDIES OF WATERFOWL (ANATIDAE) IN NORTH QUEENSLAND: VII. LONG-TERM CHANGES IN HABITAT. *Queensland J. Agric. Anim. Sci.* 28(4): 275-280, illus. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 96*
[Queensland Dep. Primary Ind., Townsville, Queensland, Australia.]

Macy, Ralph W. ACQUIRED RESISTANCE IN DUCKS TO INFECTION WITH THE PSILOSTOME TREMATODE *SPHAERIDIOTREMA GLOBULUS* (RUDOLPHI, 1814). *J. Wildl. Dis.* 9(1): 44-46. Jan. 1973. *WR 148: 96*
[Portland State Univ., Portland, Oreg.]

Mathiasson, S. [A STUDY OF A MALLARD POPULATION IN THE NON-BREEDING SEASON.] *Göteborgs Nat. Hist. Mus. Årstryck.* p. 13-36. 1971. [From Ibis 115(1), 1973. In Swedish with English summ.] *WR 148: 96*

McGilvrey, Frank B. INCREASING A WOOD DUCK NESTING POPULATION BY RELEASES OF PEN-REARED BIRDS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 202-206. 1972. *WR 148: 96*
[Patuxent Wildl. Res. Cent., Laurel, Md.] Conclusions: The release of a small number of pen-reared wood ducks over a 3-year period had a very positive impact on the subsequent size of the breeding population and production on the Patuxent Wildlife Research Center. The number of hens using nest boxes increased from a low of 22 in 1966 to 111 in 1970. Production of young to flying increased from 60 to 540 in 1971. Modified migration behavior apparently resulted in higher survival of both pen-reared and wild breeders. This study suggests that pen-reared wood ducks are highly adaptable to the wild under favorable habitat conditions, and that small numbers of released birds can significantly increase sparse breeding populations.

McKenzie, H. R. THE BROWN TEAL IN THE AUCKLAND PROVINCE. *Notornis* 18: 280-286. 1971. [From Auk 89(4), 1972.] *WR 148: 96*
"Anas aucklandica chloritis."

Schlenker, R. SOMMERLICHE RAST- UND MAUSERPLÄTZE DER LÖFFELENTE, *ANAS CLYPEATA*, IN SCHLESWIG-HOLSTEIN. [SUMMER RESTING AND MOLTING AREAS OF THE SHOVELER *ANAS CLYPEATA* IN SCHLESWIG-HOLSTEIN.] *Corax* 4: 52-56. 1972. [From Ibis 115(1), 1973. In German.] *WR 148: 96*

Scholl, D. DAS VORKOMMEN DES ROTHALSTAUCHERS *PODICEPS GRISEIGENA*, IN SCHLESWIG-HOLSTEIN UND HAMBURG. [THE STATUS OF RED-NECKED GREBES *PODICEPS GRISEIGENA* IN SCHLESWIG-HOLSTEIN AND HAMBURG.] *Corax* 4: 14-29. 1972. [From Ibis 115(1), 1973. In German.] *WR 148: 96*

Sjölander, Sverre, and Greta Ågren. REPRODUCTIVE BEHAVIOR OF THE COMMON LOON. *Wilson Bull.* 84(3): 296-308, 5 figs. Sept. 1972. *WR 148: 96*
[Univ. Stockholm, Box 6801, Stockholm, Sweden.] The arrival on the breeding grounds, territorial behavior, courtship, copulation, choice of nest site, nest building, incubation, hatching, parental care of young, and behavior of young for *Gavia immer* are discussed.--Courtesy/ Paul A. Stewart.

Steele, H. M. IN-HAND IDENTIFICATION OF WATERFOWL (A TEACHING METHOD). *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 673-675. 1972. *WR 148: 97*

Stewart, Robert E. WATERFOWL OF THE CHESAPEAKE BAY. *Chesapeake Sci.* 13 (suppl.): S134-S137. Dec. 1972. *WR 148: 97*
[Northern Prairie Wildl. Res. Cent., Jamestown, N. Dak.] Twenty-four species are listed.

Stewart, Robert Earl, Jr. FORESTS, WETLANDS AND WATERFOWL POPULATIONS IN THE TURTLE MOUNTAINS OF NORTH DAKOTA AND MANITOBA. *Ph.D. thesis, N. Dak. State Univ.* 224 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 97*

Tabberer, Daniel K., John D. Newsom, Prentiss E. Schilling, and Hugh A. Bateman. THE WOOD DUCK ROOST COUNT AS AN INDEX TO WOOD DUCK ABUNDANCE IN LOUISIANA. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 254-261, 2 figs. 1972. *WR 148: 97*
[U.S. Army Corps of Engineers, P.O. Box 60267, New Orleans, La.]

Talpeanu, Matei. LES ANSERIFORMES DE ROUMANIE (II). [THE ANSERIFORMES OF ROMANIA (II).] *Trav. Mus. Hist. Nat. Grigore Antipa* 11. p. 393-399, illus. 1971. [From Biol. Abstr. 54(12), 1972. In French with Romanian summ.] *WR 148: 97*

Thies, H. ZUM BRUTVORKOMMEN DER KRICKENTE, *ANAS CRECCA*, IN SCHLESWIG-HOLSTEIN. [ON THE BREEDING DISTRIBUTION OF THE TEAL *ANAS CRECCA* IN SCHLESWIG-HOLSTEIN.] *Corax* 4: 40-52. 1972. [From Ibis 115(1), 1973. In German.] *WR 148: 97*

Vengerov, M. P. [SOME PERIODIC PHENOMENA IN THE LIFE OF WATER BIRDS OF THE LOWER OB.] *Sb. Nauchno-Tekh. Inf. Vses. Nauchno-Issled. Inst. Okhotnogo Khoz. Zverovod.* 31. p. 13-21. 1970. [From Biol. Abstr. 54(9), 1972, from Ref. Zh. Biol., 1971, no. 7I448.] *WR 148: 97*
"Anas spp."

Vereshchagin, N. K., and O. S. Russakov. [SEASONAL DISTRIBUTION OF WATERFOWL IN NORTHWESTERN RUSSIA AND PROBLEMS OF THEIR PROTECTION.] *Commun. Baltic Comm. Study Bird Migration* 7: 106-117. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 97*

Webster, Clark G., E. Hugh Galbreath, and Arthur E. L. Dierker. PROPAGATION, RELEASE AND HARVEST OF MALLARDS AT REMINGTON FARMS. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 187-190. 1972. *WR 148: 97*

Weeks, John L. AN IMPROVED PATAGIAL STREAMER FOR WATERFOWL. *Bird-Banding* 43 (2): 140-141, 2 figs. Apr. 1972. *WR 148: 97*
[Ohio Div. Wildl., Oak Harbor.] The streamer was made of plastic-coated nylon flagging material. It was stitched to the patagium with use of nylon dental floss and a leather awl. Marked individuals were readily identified at distances up to 300 yd. Streamers were intact on ducks 395 days after their application.--Courtesy/ Paul A. Stewart.

Westerskov, K. E. DISTRIBUTION AND NUMBERS OF THE CRESTED GREBE *PODICEPS CRISTATUS* IN CANTERBURY. *Notornis* 18: 3-29. 1971. [From Auk 89(4), 1972.] *WR 148: 97*

Wills, Dewey. FOOD HABIT STUDY OF MALLARDS AND PINTAILS ON CATAHOULA LAKE, LOUISIANA, WITH NOTES OF FOOD HABITS OF OTHER SPECIES. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 289-294. 1972. *WR 148: 97*
[La. Wild Life & Fisheries Comm., Baton Rouge.]

Wolff, W. J. GOAL ORIENTATION VERSUS ONE-DIRECTION ORIENTATION IN TEAL *ANAS C. CRECCA* DURING AUTUMN MIGRATION. *Ardea* 58: 131-141. 1970. [From Bird-Banding 43(3), 1972.] *WR 148: 98*

Wycoff, Reginald G., Dewey W. Wills, and Leslie L. Glasgow. AN EVALUATION OF RECOVERY DATA FROM ARTIFICIALLY SEEDED LEAD SHOT ON CATAHOULA LAKE, LASALLE PARISH, LOUISIANA. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 245-254, 1 fig. 1972. *WR 148: 98*
[La. Wild Life & Fisheries Comm., New Orleans.]

SWANS & GEESE

Cooke, F., and P. J. Mirsky. A GENETIC ANALYSIS OF LESSER SNOW GOOSE FAMILIES. *Auk* 89(4): 863-871. Oct. 1972. *WR 148: 98*
[Queen's Univ., Kingston, Ontario, Canada.] *"Anser caerulescens."*--Courtesy/ Paul A. Stewart.

Cooke, F., P. J. Mirsky, and M. B. Seiger. COLOR PREFERENCES IN THE LESSER SNOW GOOSE AND THEIR POSSIBLE ROLE IN MATE SELECTION. *Canadian J. Zool.* 50(5): 529-536, illus. 1972. [From Biol. Abstr. 54(10), 1972. In English with French summ.] *WR 148: 98*
[Queen's Univ., Kingston, Ontario, Canada.] Prolonged association of gosling and parent is important if parental color is to have an influence on mate selection.

Helmstaedt, K. W., M. Müller, and H. J. Seeger. BEMERKUNGEN ZUM ZUG DER BLESSGANS *ANSER A. ALBIFRONS* (SCOP.). [OBSERVATIONS ON THE MIGRATION OF WHITE-FRONTED GEESE *ANSER A. ALBIFRONS.*] *Beitr. Vogelkunde* 17: 185-200. 1971. [From Ibis 115(1), 1973. In German.] *WR 148: 98*

Hudec, Karel, and Zdenek Kux. THE CLUTCH SIZE OF THE GREYLAG GOOSE *(ANSER ANSER)* IN CZECHOSLOVAKIA. *Zool. Listy* 20(4): 365-376, illus. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 98*
[Czechoslovakian Acad. Sci., Brno, Czechoslovakia.] This study is based on 453 records on the clutch size of greylag geese in Czechoslovakia made during 1945-1970. The average clutch size is 5.75 ± 3 eggs. Seasonal and yearly variations and losses due to abandonment and predators are also indicated.

Pratt, Jerome J. RESEARCH STUDY PROPOSAL FOR INVESTIGATION OF BEHAVIOR OF THE HAWAIIAN GOOSE UNDER THE "NENE PARK" PLAN. *Elepaio* 33(4): 33-37. Oct. 1972. *WR 148: 98*
"Branta sandvicensis."

Raveling, Dennis G., Wendell E. Crews, and W. D. Klimstra. ACTIVITY PATTERNS OF CANADA GEESE DURING WINTER. *Wilson Bull.* 84(3): 278-295, 8 figs. Sept. 1972. *WR 148: 98*
[Univ. Calif., Davis.] Relates the activity of Canada geese *(Branta canadensis)* to ambient temperatures and light intensity.--Courtesy/ Paul A. Stewart.

Scott, Peter, and the Wildfowl Trust. THE SWANS. *Houghton Mifflin Co.* (Boston). x + 242 p., illus. including 48 pls. + colored frontispiece, 8 x 10.5 in. 1972. Price $15.00. *WR 148: 98*
"Beginning with Peter Scott's introduction, on the magic of swans, the book deals with every aspect of the subject: the characteristics and identification of each of the eight species; distribution, migration, and population numbers; habitat and food, reproduction and family life -- courtship, nest building, growth, and aggression. There are chapters on disease and death, on swans and man, on domestication for meat and swansdown, on their relation with aviator, farmer, and fisherman, and on the problems of their conservation. Technical material on weights and measures, cluster size, longevity, etc., is also included here."

Smith, Ian D., and Donald A. Blood. NATIVE SWANS WINTERING ON VANCOUVER ISLAND OVER THE PERIOD 1969-71. *Canadian Field Nat.* 86(3): 213-216. July-Sept. 1972. *WR 148: 99*
[British Columbia Fish & Wildl. Branch, Court House, Nanaimo, British Columbia, Canada.] Abstract: Counts of wintering native swans indicated that the Vancouver Island population increased by 129 per cent over the period 1969-1971, and that the 1970-71 population contained a minimum of 1,076 birds. It is believed that most of the birds are Trumpeter Swans. Over the same period, the proportion of cygnets has been 22 per cent, 26 per cent, and 25 per cent. Major wintering areas appear to be centered about sheltered salt-water estuaries. The proportion of birds wintering on these estuaries was highest during the most severe winter over the counting period.

Talpeanu, M., and Maria Paspaleva. *BRANTA RUFICOLLIS* IN ROMANIA. [*BRANTA RUFICOLLIS* IN ROMANIA.] *Ocrotiera Nat.* 15(2): 161-164, illus. 1971. [From Biol. Abstr. 54(7), 1972. In Romanian with French summ.] *WR 148: 99*
[Muzuel Istor. Nat. "Gr. Antipa," Bucharest, Romania.]

SHOREBIRDS, MARSH BIRDS & THEIR ALLIES

Aldrich, John. A NEW SUBSPECIES OF SANDHILL CRANE FROM MISSISSIPPI. *Proc. Biol. Soc. Washington* 85(5): 63-70. 30 Aug. 1972. *WR 148: 99*
[U.S. Dept. Interior, Washington, D.C.] *"Grus canadensis pulla."*

Batulis, John C., and Salvatore F. Bongiorno. EFFECT OF WATER DEPTH ON DIVING TIMES IN THE AMERICAN COOT *(FULICA AMERICANA)*. *Auk* 89(3): 665-667. July 1972. *WR 148: 99*
[5128 Cunningham Ct., New Orleans, La.] Coots remained submerged, paused longer between successive dives, and dove less often in relatively deeper water. --Courtesy/ Paul A. Stewart.

Birkhead, T. R. THE HERON POPULATION OF YORKSHIRE. *Naturalist* 919: 117-121. 1972. [From Ibis 115(1), 1973.] *WR 148: 99*
A review of the fortunes of all Yorkshire's heronries and censuses since 1940.

Blackman, J. G. SEX DETERMINATION OF AUSTRALIAN CRANES (GRUIDAE). *Queensland J. Agric. Anim. Sci.* 28(4): 275-280, illus. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 99*
[Queensland Dep. Primary Ind., Townsville, Queensland, Australia.] Sexual dimorphism and cloacal characters in *Grus antigone sharpii* and *Grus rubicundus* provide field methods for determining the sex of individuals in approximately three-fourths of the Australian crane populations.

Bowman, Margaret Coon, and Stewart L. Whitman. SIMULTANEOUS MIGRATION OF SANDHILL CRANES IN FLORIDA. *Auk* 89(3): 668. July 1972. *WR 148: 99*
[Box 783, Wabasso, Fla.] Northward migration of sandhill cranes *(Grus canadensis)* started at approximately the same time from two points 165 m apart.--Courtesy/ Paul A. Stewart.

Burton, P. J. K. THE FEEDING TECHNIQUES OF STILT SANDPIPERS AND DOWITCHERS. *Trans. San Diego Soc. Nat. Hist.* 17(5): 63-68. 16 Aug. 1972. *WR 148: 99*
[British Mus. (Nat. Hist.), Tring, Hertfordshire, England.] *"Micropalama himantopus* and *Limnodromus* spp."

Chalmers, C. E. CATTLE EGRETS IN THE GIPPSLAND AREA. *Emu* 72(4): 180-181. Oct. 1972. *WR 148: 99*
[Fisheries & Wildl. Dep., P.O. Box 247, Sale, Victoria, Australia.] *"Ardeola ibis."*

Clark, Eldon R. WOODCOCK STATUS REPORT, 1971. *U.S. Fish Wildl. Serv. Spec. Sci. Rep. Wildl.* no. 153. iv + 47 p., 5 figs. 1972. For sale at 50¢ by Supt. Documents, GPO, Washington, D.C. *WR 148: 100*

[Patuxent Wildl. Res. Cent., Laurel, Md.] The 1971 singing-ground survey showed declines in the breeding population index of 9.7% in the Atlantic Region, 7.2% in the Central Region, and 8.3% rangewide. The wing-collection survey for the 1970-71 season suggested the greatest 1-year change in productivity in the history of the survey--a 25% increase. Average daily bag per hunter was unchanged from the previous year, while the average season bag showed a slight increase.--From abstr.

Crosby, Gilbert T. SPREAD OF THE CATTLE EGRET IN THE WESTERN HEMISPHERE. *Bird-Banding* 43(3): 205-212. July 1972. *WR 148: 100*

[1343 N.E. 31 Ave., Gainesville, Fla.] *"Bubulcus ibis."*--Courtesy/ Paul A. Stewart.

Dinsmore, James J. FORAGING SUCCESS OF CATTLE EGRETS, *BUBULCUS IBIS*. *Am. Midl. Nat.* 89(1): 242-246. Jan. 1973. *WR 148: 100*

[Univ. Tampa, Tampa, Fla.] Abstract: Comparisons of cattle egrets *(Bubulcus ibis)* foraging with cows and alone show that those foraging with cows capture more food items and take fewer steps to do so. Egrets are about 3.6 times as efficient when foraging with cows as when foraging alone. Cattle egrets foraging behind moving farm machinery capture food at about the same rate as those foraging with cows but they take more steps. Foraging with farm machinery is more efficient than foraging alone. The association of cattle egrets with cows clearly is advantageous to the egret but the possible beneficial effects to cows have not been shown.

Grummt, W., and J. Haensel. ERGEBNISSE METRISCHER UNTERSUCHUNGEN AN BLESSRALLEN *(FULICA ATRA* L.) VON BERLINER MÜGGELSEE. [RESULTS OF METRICAL INVESTIGATIONS OF COOTS *FULICA ATRA* FROM THE MÜGGELSEE OF BERLIN.] *Beitr. Vogelkunde* 18: 19-50. 1972. [From Ibis 115(1), 1973. In German.] *WR 148: 100*

Hald-Mortensen, P. [WOODCOCK.] *Feltornithologen* 13: 165-170. 1971. [From Ibis 115(1), 1973. In Danish.] *WR 148: 100*

Studies in the winter biology of *Scolopax rusticola*: the development of overwintering in Denmark related to plantations of conifers this century.

Haverschmidt, F. THE MIGRATION OF THE BUFF-BREASTED SANDPIPER THROUGH SURINAM. *Wilson Bull.* 84(3): 341-342. Sept. 1972. *WR 148: 100*

[Wolfskuilstraat, Ommen, Holland.] *"Trynigites subruficollis."*--Courtesy/ Paul A. Stewart.

Hobbs, J. N. BREEDING OF RED-CAPPED DOTTEREL AT FLETCHER'S LAKE, DARETON, NSW. *Emu* 72(4): 121-125. Oct. 1972. *WR 148: 100*

[Police Sta., Ivanhoe, New South Wales, Australia.] *"Charadrius alexandrinus."*

Hoelzinger, Jochen. ZUG UND WINTERVORKOMMEN VON WASSERRALLI *(RALLUS AQUATICUS)* UND TUEPFELSUMFHUHN *(PORZANA PORZANA)* IN DER GEGEND VON ULM. [MIGRATION AND WINTER DISTRIBUTION OF WATER RAIL *(RALLUS AQUATICUS)* AND SPOTTED CRAKE *(PORZANA PORZANA)* IN THE ULM AREA.] *Anz. Ornithol. Ges. Bayern* 11(1): 49-53, illus. 1972. [From Biol. Abstr. 54(8), 1972. In German with English summ.] *WR 148: 100*

[Silcherweg 22, Oberelchingen, Germany.]

Hoelzinger, Jochen. ZUR VERBREITUNG DES TEICHHUHNS *(GALLINULA CHLOROPUS)* IN BADEN-WUERTTEMBERG. ORNITHOLOGISCHER SAMMELBERICHT FUER BADEN-WUERTTEMBERG. [ON THE DISTRIBUTION OF THE MOORHEN *(GALLINULA CHLOROPUS)* IN BADEN-WUERTTEMBERG. COLLECTED ORNITHOLOGICAL REPORT FOR BADEN-WUERTTEMBERG.] *Anz. Ornithol. Ges. Bayern* 11(1): 111-114, illus. 1972. [From Biol. Abstr. 54(8), 1972. In German.] *WR 148: 100*

Hopkins, Milton N., Jr. CATTLE EGRET RECOVERIES FROM SOUTH GEORGIA NESTING COLONIES. *Bird-Banding* 43(3): 220-221. July 1972. *WR 148: 101*
[R. 5, Fitzgerald, Ga.] Cattle egrets *(Bubulcus ibis)* banded in southern Georgia were recovered from various locations ranging from Nova Scotia to Central America.--Courtesy/ Paul A. Stewart.

Howe, Marshall Atherton. PAIR BOND FORMATION AND MAINTENANCE IN WILSON'S PHALAROPE, *PHALAROPUS TRICOLOR*. *Ph.D. thesis, Univ. Minn.* 200 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(5), 1972.] *WR 148: 101*

Kirchner, Heinrich. ZUR BRUT DES WALDWASSERLÄUFERS *(TRINGA OCHROPUS)* IN SCHLESWIG-HOLSTEIN. [ON THE BREEDING OF THE GREEN SANDPIPER *(TRINGA OCHROPUS)* IN SCHLESWIG-HOLSTEIN.] *Ornithol. Mitt.* 24(12): 268-271, illus. Dec. 1972. In German. *WR 148: 101*
[Bad Oldesloe, Germany.]

Lenz, Michael. ZUM VORKOMMEN DER SPORNAMMER *(CALCARIUS LAPPONICUS)* IM BERLINER RAUM. [ON THE OCCURRENCE OF THE LAPLAND LONGSPUR *(CALCARIUS LAPPONICUS)* IN THE BERLIN AREA.] *Ornithol. Mitt.* 24(8): 171-172. Aug. 1972. In German. *WR 148: 101*

Masatomi, Hiroyuki. COMMUNAL WINTERING OF A SANDHILL CRANE WITH JAPANESE CRANES IN HOKKAIDO, JAPAN. *Wilson Bull.* 84(3): 250-260, 2 figs. Sept. 1972. *WR 148: 101*
[Senshu Univ., Bibai, Hokkaido, Japan.] Roosting and feeding range, daily feeding activities, and relations of sandhill crane *(Grus canadensis)* with Japanese cranes *(G. japonensis)* are discussed.--Courtesy/ Paul A. Stewart.

McNeil, Raymond, and Jean Burton. CRANIAL PNEUMATIZATION PATTERNS AND BURSA OF FABRICIUS IN NORTH AMERICAN SHOREBIRDS. *Wilson Bull.* 84(3): 329-339, 2 figs. Sept. 1972. *WR 148: 101*
[Univ. Montreal, Montreal, Quebec, Canada.] Involution of the bursa of Fabricius starts in the fall and is complete by the end of winter. Also, the degree of cranial ossification does not permit distinguishing young shorebirds from adults, as large "windows" generally occur in skulls of adults as well as juveniles.--Courtesy/ Paul A. Stewart.

McNeil, Raymond, and Francoise Cadieux. NUMERICAL FORMULAE TO ESTIMATE FLIGHT RANGE OF SOME NORTH AMERICAN SHOREBIRDS FROM FRESH WEIGHT AND WING LENGTH. *Bird-Banding* 43(2): 107-113. Apr. 1972. *WR 148: 101*
[Univ. Montreal, Montreal, Quebec, Canada.] Summary: For eight species of North American shorebirds, equations are given to estimate fat content and flight range based on fresh weight and flattened wing length. These numerical relations should help bird-banders and experimental ornithologists to transform simple field measurements into meaningful data on the flight capabilities of these species.--Courtesy/ Paul A. Stewart.

Mois, C. NIDIFICATION DU VANNEAU HUPPE *(VANELLUS VANELLUS)* EN LORRAINE BELGE. [NESTING OF THE LAPWING *(VANELLUS VANELLUS)* IN THE BELGIAN LORRAINE.] *Aves* 8(6): 153-157, illus. 1971. [From Biol. Abstr. 54(9), 1972. In French.] *WR 148: 101*
[Rue Faubourgs, Arlon, Belgium.]

Mukherjee, Ajit Kumar. FOOD HABITS OF WATERBIRDS OF THE SUNDARBAN, 24-PARGANAS DISTRICT, WEST BENGAL, INDIA: III. EGRETS (CONTINUED). *J. Bombay Nat. Hist. Soc.* 68(3): 691-716, illus. 1971. [From Biol. Abstr. 54(10), 1972.] *WR 148: 101*
[Zool. Surv. India, Calcutta, West Bengal, India.] *"Bubulcus ibis coromandus."*

Olson, Storrs L. A WHOOPING CRANE FROM THE PLEISTOCENE OF NORTH FLORIDA. *Condor* 74(3): 341. Autumn 1972. *WR 148: 101*
[Smithsonian Inst., Washington, D.C.] Courtesy/ Paul A. Stewart.

Page, G., and A.L.A. Middleton. FAT DEPOSITION DURING AUTUMN MIGRATION IN THE SEMIPALMATED SANDPIPER. *Bird-Banding* 43(2): 85-96, 6 figs. Apr. 1972. *WR 148: 102*

[Point Reyes Bird Observatory, Mesa Rd., Bolinas, Calif.] Fat levels of semipalmated sandpipers *(Ereunetes pusillus)* in migration ranged from 4.6 to 42.1% of total body weights, fat deposits increasing as the birds remained in the area. There was no evidence that departure of semipalmated sandpipers was related to specific fat levels.--From summ. Courtesy/ Paul A. Stewart.

Partch, Max. THE 1972 GREAT BLUE HERON MIGRATION IN MINNESOTA. *Loon* 44(3): 85-87, [1 fig.]. Fall 1972. *WR 148: 102*

[St. Cloud Coll., St. Cloud, Minn.]

Perry, H. Randolph, Jr., John D. Newsom, and Prentiss E. Schilling. EFFORTS TO DEVELOP AN EXTERNAL AGING AND SEXING TECHNIQUE FOR COMMON SNIPE IN LOUISIANA. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 338-346. 1972. *WR 148: 102*

[La. Coop. Wildl. Res. Unit, Baton Rouge.]

Phillips, R. E. SEXUAL AND AGONISTIC BEHAVIOUR IN THE KILLDEER *(CHARADRIUS VOCIFERUS)*. *Anim. Behav.* 20(1): 1-9, 2 figs. Feb. 1972. *WR 148: 102*

[Minn. Agric. Exp. Sta., St. Paul.] Abstract: Field studies suggest that killdeer pairs form on the breeding grounds. Males advertise both on the ground and in the air with loud 'killdeer' and other calls and with scraping ('sham' nesting). In scrape exchanges the scraper faces away, breast dipped, tail raised and spread over the incoming bird. On the ground killdeers chase with body horizontal, back feathers ruffled and trilled calls. Fleers are silent and may end runs with sudden crouched tilting of the dorsum toward the pursuer, exposing the reddish rump. Pairs defend their nest area and young from conspecifics.

Pratt, Helen M. THE 1972 BREEDING SEASON AT AUDUBON CANYON RANCH. *Point Reyes Bird Observatory Newsl.* no. 24. p. 10-11. Dec. 1972. *WR 148: 102*

Analysis of nesting success of great blue herons and common egrets.

Ramsey, J. J. THE STATUS OF THE CATTLE EGRET IN TEXAS. *Bull. Tex. Ornithol. Soc.* 4: 6-7. 1971. [From Auk 89(4), 1972.] *WR 148: 102*

Recher, H. F. TERRITORIAL AND AGONISTIC BEHAVIOUR OF THE REEF HERON. *Emu* 72 (4): 126-130, 1 fig. Oct. 1972. *WR 148: 102*

[Australian Mus., Sydney, Australia.] Summary: Agonistic behaviour and displays are described for foraging Reef Herons *Egretta sacra*. Displays are simple and are basically the same as described for other species and genera of herons. Reef Herons defend foraging territories and this behaviour may be restricted to breeding birds.

Recher, Harry F., and Judy A. Recher. HERONS LEAVING THE WATER TO DEFECATE. *Auk* 89(4): 896-897. Oct. 1972. *WR 148: 102*

[Australian Mus., Sydney, Australia.] In 36 of 60 observations on 9 spp., herons left their foraging sites, defecated elsewhere, and returned to the original foraging sites. In 14 instances foraging herons defecated in the water where they were foraging and then went immediately to new foraging sites.--Courtesy/ Paul A. Stewart.

Rettig, Klaus. QUANTITATIVES UND JAHRESZEITLICHES AUFTRETEN DER LIMIKOLEN IM NORDWESTLICHEN OSTFRIESLAND. [QUANTITATIVE AND ANNUAL OCCURRENCE OF SHOREBIRDS IN NORTHWESTERN EAST FRIESLAND.] *Ornithol. Mitt.* 24(9): 183-190, illus. Sept. 1972. In German. *WR 148: 102*

[Danzigerstrasse 11, Emden, Germany.]

Scholl, D. ZUM DURCHZUG DER LIMICOLEN IM JAHRE 1969 AN DER OSTKÜSTE SCHLESWIG-HOLSTEINS. [ON THE MIGRATION OF WADERS IN 1969 ON THE EAST COAST OF SCHLESWIG-HOLSTEIN.] *Corax* 4 (suppl. 1): 44-57. 1971. [From Ibis 115(1), 1973. In German.] *WR 148: 102*

Schonhardt, Hans. DER PURPURREIHER *(ARDEA PURPUREA)* BRUTVOGEL BEI KARLSRUHE. [PURPLE HERON *(ARDEA PURPUREA)* BREEDING BIRD NEAR KARLSRUHE.] *Anz. Ornithol. Ges. Bayern* 11(1): 58-63, illus. 1972. [From Biol. Abstr. 54(8), 1972. In German with English summ.] *WR 148: 103*
[Kriegsst. 296, Karlsruhe, Germany.]

Schuz, E., and R. Kuhk. STAND 1970 DER AUSBREITUNG DES KUHREIHERS *(ARDEOLA IBIS)*. [STATUS (1970) OF THE DISTRIBUTION OF THE CATTLE EGRET *ARDEOLA IBIS.*] *Beitr. Vogelkunde* 18: 70-80. 1972. [From Ibis 115(1), 1973. In German.] *WR 148: 103*
With four pages of references.

Shanholtzer, Glenn Frederick. RANGE EXPANSION DYNAMICS OF THE CATTLE EGRET. *Ph.D. thesis, Univ. Ga.* 80 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(7), 1973.] *WR 148: 103*

Sheldon, William G. THE WOODCOCK--EVERYBODY'S BIRD. *Mass. Wildl.* 23(5): 2-7, 12, illus. Sept.-Oct. 1972. *WR 148: 103*
The woodcock is described historically and by range, migration, and habitat. Previous studies and woodcock hunting are reviewed.

Siegfried, W. R. ENERGY METABOLISM OF THE CATTLE EGRET. *Zool. Africana* 4: 265-273. 1969. [From Auk 89(4), 1972.] *WR 148: 103*

Smart, J. B. NOTES ON THE OCCURRENCES OF WADERS IN FIJI. *Notornis* 18: 267-279. 1971. [From Auk 89(4), 1972.] *WR 148: 103*
15 spp.

Terborgh, John, and John S. Weske. REDISCOVERY OF THE IMPERIAL SNIPE IN PERU. *Auk* 89(3): 497-505, 3 figs. July 1972. *WR 148: 103*
[Princeton Univ., Princeton, N.J.] Comments on taxonomy, behavior, and ecology of *Gallinago imperialis* of which only two birds have been found and collected in more than 100 years.--Courtesy/ Paul A. Stewart.

Waterman, M., D. Close, and D. Condon. STRAW-NECKED IBIS *(THRESKIORNIS SPINICOLLIS)* IN SOUTH AUSTRALIA: BREEDING COLONIES AND MOVEMENTS. *South Australian Ornithol.* 26(1): 7-11. 1971. [From Bird-Banding 43(3), 1972.] *WR 148: 103*

Webber, L. A., and J. D. Edman. ANTI-MOSQUITO BEHAVIOUR OF CICONIIFORM BIRDS. *Anim. Behav.* 20(2): 228-232, 2 figs. May 1972. *WR 148: 103*
[Fla. State Div. Health, Vero Beach.] Abstract: The activity of seven species of ciconiiform birds exposed to set numbers of biting mosquitoes while at roost was recorded for 1-hr. periods and compared with the activity of the same birds when unexposed to mosquito annoyance. Fifteen different anti-mosquito movements were recognized and monitored. The five species which engaged in frequent foot-slapping and foot-pecking effectively prevented most mosquitoes from taking blood.

Wheeler, Robert H., and James C. Lewis. TRAPPING TECHNIQUES FOR SANDHILL CRANE STUDIES IN THE PLATTE RIVER VALLEY. *Bur. Sport Fish. Wildl. Resour. Publ.* 107. vi + 19 p., illus. 1972. *WR 148: 103*
[Lewis: Okla. Coop. Wildl. Res. Unit, Stillwater.] Distribution and population, habitat and behavior, development of capture techniques, and trapping results and band recoveries of *Grus canadensis.*

Williams, Lovett E., Jr., and Robert W. Phillips. NORTH FLORIDA SANDHILL CRANE POPULATIONS. *Auk* 89(3): 541-548, 2 figs. July 1972. *WR 148: 103*
[Game & Fresh Water Fish Comm., Gainesville, Fla.] Paynes Prairie in northeastern Florida is the chief wintering ground of sandhill cranes *(Grus canadensis tabida).* Some of the local nesting population of *G. c. pratensis* also remains to spend the winter on Paynes Prairie.--Courtesy/ Paul A. Stewart.

SEABIRDS & THEIR ALLIES

Ainley, David G., and T. James Lewis. CYCLES OF COLONY ATTENDANCE IN FARALLON WESTERN GULLS. *Point Reyes Bird Observatory Newsl.* no. 24. p. 6-8. Dec. 1972. *WR 148: 104*

Andrle, Robert F. ANOTHER PROBABLE HYBRID OF *LARUS MARINUS* AND *L. ARGENTATUS*. *Auk* 89(3): 669-671, 1 fig. July 1972. *WR 148: 104*
[Buffalo Mus. Sci., Humboldt Park, Buffalo, N.Y.] Courtesy/ Paul A. Stewart.

Avilova, K. V. [DAILY ACTIVITY OF GULLS IN THE BLACK SEA AND DARVIN SANCTUARIES.] *Vestn. Mosk. Univ. Ser. 6 Biol. Pochvoved.* 27(2): 25-29. 1972. [From Biol. Abstr. 54(12), 1972. In Russian with English summ.] *WR 148: 104*
[Moscow State Univ., Moscow, USSR.]

Brooke, M. de L. THE PUFFIN POPULATION OF THE SHIANT ISLANDS. *Bird Study* 19 (1): 1-6, 1 fig. Mar. 1972. *WR 148: 104*
[Gadley House, Manchester Rd., Buxton, Derbyshire, England.] Summary: There has been a steep decline in the Puffin *Fratercula arctica* population of the Shiant Islands, Outer Hebrides, during the present century, though when this began is uncertain. Counting methods developed by Cambridge University parties in the summers of 1970 and 1971 are described and the results suggest a 20% drop in the population between the two years. The reasons for the decline are not known.

Buckley, P. A., and F. G. Buckley. INDIVIDUAL EGG AND CHICK RECOGNITION BY ADULT ROYAL TERNS *(STERNA MAXIMA MAXIMA)*. *Anim Behav.* 20(3): 457-462 + 2 figs. on 1 pl. Aug. 1972. *WR 148: 104*
[Natl. Park Serv., Washington, D.C.] Abstract: Egg-switching choice experiments involving forty-two adult royal terns in eight choice situations at Hatteras Inlet, North Carolina, revealed that incubating adults consistently recognized their own single egg when placed in a wrong but adjacent nest. Individual egg colour and marking differences probably play the major role, but features of nest site (and/or of adjacent adults) were also shown to play a significant role in recognition and settling. Only two chick-switching experiments were done, with four chicks. Three of the returning adults failed to recognize their own chicks until the latter vocalized; the fourth recognized its silent chick and called it away from the nest site. The adaptive value of individual recognition of eggs and chicks is considered for this group *(Thalasseus)* of densely nesting, crêche-forming terns.

Burger, Joanna. BREEDING ADAPTATIONS OF FRANKLIN'S GULL *(LARUS PIPIXCAN)* TO A MARSH HABITAT. *Ph.D. thesis, Univ. Minn.* 237 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(6), 1972.] *WR 148: 104*

Davidov, A. [SEASONAL FLUCTUATIONS OF ENERGY METABOLISM AND THERMOREGULATION IN THE BLACK-HEADED GULL AT REST.] *Ekologiya* 2(5): 59-63. 1971. [From Bird-Banding 43(2), 1972. In Russian.] *WR 148: 104*
"Larus ridibundus."

DeLaRonde, Gordon G. II, and Yvonne A. Greichus. CARE AND BEHAVIOR OF PENNED DOUBLE-CRESTED CORMORANTS. *Auk* 89(3): 644-650, 2 figs. July 1972. *WR 148: 104*
[S. Dak. State Univ., Brookings.] The purpose of this paper is to report experiences in care and feeding of *Phalacrocorax auritus* to provide a baseline for interpreting effects of insecticides on behavior.--Courtesy/ Paul A. Stewart.

Doane, Lucille A. BEHAVIOR OF BLACK TERNS ON THEIR NESTING GROUNDS. *Inland Bird-Banding News* 44(4): 136-144, 2 figs. July-Aug. 1972. *WR 148: 104*
[3307 Meadow Lane, Glenview, Ill.] *"Chlidonias niger."*--Courtesy/ Paul A. Stewart.

Elkins, N., and M. R. Williams. ASPECTS OF SEABIRD MOVEMENT OFF NORTHEAST SCOTLAND. *Scottish Birds* 7(2): 66-75. Summer 1972. *WR 148: 104*
Divers, shearwaters, fulmars, gannets, cormorants and shag, sea ducks, skuas, kittiwakes, terns, and auks are discussed in this report.

Escalante, Rodolfo. FIRST POMARINE JAEGER SPECIMEN FROM BRAZIL. *Auk* 89(3): 663-665. July 1972. *WR 148: 105*
[Guayaqui 3425, Apto. 301, Montevideo, Uruguay.] *"Stercorarius pomarinus."* The record is remarkable for two reasons. Not only was this specimen of a usually pelagic species collected nearly 800 km (480 miles) inland from the Atlantic, but it also constitutes the southernmost specimen record of the species for South America.--Courtesy/ Paul A. Stewart.

Fleet, Robert R. NESTING SUCCESS OF THE RED-TAILED TROPICBIRD ON KURE ATOLL. *Auk* 89(3): 651-659, 2 figs. July 1972. *WR 148: 105*
[Texas A&M Univ., College Station.] Predation by Polynesian rats *(Rattus exulans)* was the chief cause of nesting failure of red-tailed tropicbirds *(Phaethon rubricauda)*. The rats normally feed on vegetation and turn to predation on birds only during shortage of plant food. In years of destructive late winter and spring storms less plant material is available for the rats.--Courtesy/ Paul A. Stewart.

Flegg, J. J. M. THE PUFFIN ON ST KILDA 1969-71. *Bird Study* 19(1): 7-17, 3 figs. Mar. 1972. *WR 148: 105*
[British Trust Ornithol., Beech Grove, Tring, Hertfordshire, England.] Since the early 1960's there has been a very considerable decline--several large puffinries are totally or nearly deserted--and the decline continued during the study. The mile-long island of Dun was once completely riddled with occupied puffin burrows: in 1969 about one half of this island was occupied, and in 1971 only about one tenth remained occupied and free of deep sorrel. In 1971 counts on the various islands amounted to 163,000 pairs, thus it seems most unlikely that the present population of the whole island group exceeds 250,000 pairs.--From summ.

Gloe, P. EIN MASSENABZUG FLUSS- UND KUSTENSEESCHWALBEN *(STERNA HIRUNDO* ET *STERNA PARADISAEA)* AN DER MELDORFER BUCHT. [A MASSIVE EXODUS OF TERNS *(STERNA HIRUNDO* AND *STERNA PARADISAEA)* FROM MELDORF BAY.] *Ornithol. Mitt.* 24(8): 170-171. Aug. 1972. In German. *WR 148: 105*
[Mühlenstrasse 10, Meldorf, Germany.]

Gould, Robert W. BROWN PELICAN EGGSHELLS: X-RAY DIFFRACTION STUDIES. *Bull. Environ. Contam. Toxicol.* 8(2): 84-88. Aug. 1972. *WR 148: 105*
[Univ. Fla., Gainesville.] Summary: X-ray diffraction studies of Brown Pelican eggshells from various localities in North America have shown that the crystalline shell material consists of three calcium carbonate polymorphs, calcite, aragonite and vaterite. The data suggest that thin eggshells show a high calcite to vaterite ratio compared with thicker Florida shells.

Gruchy, C. G., A. A. R. Dykes, and R. H. Bowen. THE SHORT-TAILED ALBATROSS RECORDED AT OCEAN STATION PAPA, NORTH PACIFIC OCEAN, WITH NOTES ON OTHER BIRDS. *Canadian Field Nat.* 86(3): 285-287. July-Sept. 1972. *WR 148: 105*
[Nat. Mus. Canada, Ottawa, Ontario, Canada.] *"Diomedea albatrus."*

Hoelzinger, Jochen, and Klaus Schilhansl. ZUM VORKOMMEN DES KORMORANS *(PHALACROCORAX CARBO)* IN ULMER RAUM. [THE OCCURRENCE OF THE CORMORANT *(PHALACROCORAX CARBO)* IN THE ULM AREA (UPPER DANUBE), SOUTHWESTERN GERMANY.] *Ans. Ornithol. Ges. Bayern* 10(3): 170-173, illus. 1971. [From Biol. Abstr. 54(7), 1972. In German with English summ.] *WR 148: 105*
[Sedanst. 147, Ulm/Donau, Germany.] A survey is given of a 25-yr-series of observations of the cormorant as a migrant on passage through the Ulm area.

Hopkins, Carl D., and R. Haven Wiley. FOOD PARASITISM AND COMPETITION IN TWO TERNS. *Auk* 89(3): 583-594, 4 figs. July 1972. *WR 148: 105*
[Univ. N.C., Chapel Hill.] Summary: We investigated possibilities for both competitive and parasitic interactions between Common and Arctic Terns on Petit Manan Island, Maine. Both species fed their chicks almost exclusively herring. In two parameters of their foraging behavior, the sizes of fish brought to their

chicks and the directions from which they returned to the island, the two species differed significantly in spite of extensive overlap. Common Terns were facultative parasites on their congener and they regularly, although infrequently, stole large fish from Arctic Terns after energetic chases. We discuss the implications of these observations for the coexistence of these two sibling species and for the evolution of their feeding strategies.--Courtesy/ Paul A. Stewart.

Houston, C. Stuart. RECOVERIES OF SASKATCHEWAN COMMON TERNS. *Blue Jay* 30 (4): 216-217, 1 fig. Dec. 1972. *WR 148: 106*
[863 University Dr., Saskatoon, Saskatchewan, Canada.]

Lane, S. G. BREEDING SEABIRDS OF THE SOLITARY ISLANDS, NSW. *Emu* 72(4): 182-184, 1 fig. Oct. 1972. *WR 148: 106*
[65 Wood St., Lane Cove, New South Wales, Australia.]

Lane, S. G. WHITE-PHASED WEDGE-TAILED SHEARWATER ON NORTH SOLITARY ISLAND, NSW. *Emu* 72(4): 184-185. Oct. 1972. *WR 148: 106*
[65 Wood Street, Lane Cove, New South Wales, Australia.] White-phased *Puffinus pacificus* is regularly found *north* of the equator.

LeCroy, Mary, and Charles T. Collins. GROWTH AND SURVIVAL OF ROSEATE AND COMMON TERN CHICKS. *Auk* 89(3): 595-611, 4 figs. July 1972. *WR 148: 106*
[Am. Mus. Nat. Hist., New York, N.Y.] Chicks of roseate terns *(Sterna dougallii)* and common terns *(S. hirundo)* became endothermic at 2-3 days of age, when parental brooding declined. Hatchability of roseate tern eggs was lower than that of common terns. Roseate chicks survived better without than with siblings. Common terns sustained higher losses of chicks than roseates.--From summ. Courtesy/ Paul A. Stewart.

Lock, Anthony R. A NOVA SCOTIAN KITTIWAKE COLONY. *Canadian Field Nat.* 86 (3): 291. July-Sept. 1972. *WR 148: 106*
[Dalhousie Univ., Halifax, Nova Scotia, Canada.] *"Rissa tridactyla."*

Maunder, John Ernest, and William Threlfall. THE BREEDING BIOLOGY OF THE BLACK-LEGGED KITTIWAKE IN NEWFOUNDLAND. *Auk* 89(4): 789-816, 9 figs. Oct. 1972. *WR 148: 106*
[Univ. Alberta, Edmonton, Alberta, Canada.] Census of population, topography of nest sites, nest building, nest materials, egg laying, the egg, incubation period, growth of embryo, hatching, chick growth, body temperature, pterylography, fledgling period, nest departure, food, feeding, and mortality of *Rissa tridactyla.*--Courtesy/ Paul A. Stewart.

Mills, J. A. SEXING RED-BILLED GULLS FROM STANDARD MEASUREMENTS. *New Zealand J. Mar. Freshwater Res.* 5(2): 326-328, illus. 1971. [From Biol. Abstr. 54(9), 1972.] *WR 148: 106*
[Dep. Intern. Aff., Wellington, New Zealand.] *"Larus novaehollandiae scopulinus."*

Mochizuki, H. [AN INFORMATION ABOUT BIRDS IN SOUTHERN SEA AREA OF JAPAN.] *Tori* 19: 1-7. 1969. [From Auk 89(4), 1972. In Japanese with English summ.] *WR 148: 106*
Records of 20 spp. of seabirds.

Mochizuki, H. [SEABIRDS IN SUMMER OFF MIYAKO I., OKINAWA IS.] *Tori* 20: 64-66. 1970. [From Auk 89(4), 1972. In Japanese with English summ.] *WR 148: 106*
Observations on 9 spp.

Nazarov, Y., and V. Labzyuk. [SOME NOTES ON THE BIOLOGY OF THE SPECTACLED GUILLEMOT IN SOUTH PRIMOR.] *Biol. Nauki* 1972(3): 32-35. 1972. [From Bird-Banding 43(3), 1972. In Russian.] *WR 148: 106*
"Cepphus carbo."

Nelson, A. KING SHAGS IN THE MARLBOROUGH SOUNDS. *Notornis* 18: 30-37. 1971. [From Auk 89(4), 1972.] *WR 148: 107*

Nisbet, I. C. T., and W. H. Drury. MEASURING BREEDING SUCCESS IN COMMON AND ROSEATE TERNS. *Bird-Banding* 43(2): 97-106, 1 fig. Apr. 1972. *WR 148: 107*
[Mass. Audubon Soc., Lincoln.] Nesting success of common terns *(Sterna hirundo)* varied from zero to 2.1 chicks per nest, with an average of about 0.9 nesting success of roseate terns *(S. dougallii)* varied from 0.88 to 1.34 chicks per nest.--Courtesy/ Paul A. Stewart.

Nisbet, I. C. T., and W. H. Drury. POST-FLEDGING SURVIVAL IN HERRING GULLS IN RELATION TO BROOD-SIZE AND DATE OF HATCHING. *Bird-Banding* 43(3): 161-172. July 1972. *WR 148: 107*
[Mass. Audubon Soc., Lincoln.] Young herring gulls *(Larus argentatus)* survive beyond their first six months of life more often when from nests with one or two young than when from nests of three young. Also, survival from nests started 3-4 weeks later than usual was only 10-20% of that from nests started the usual time.--Courtesy/ Paul A. Stewart.

Podkovyrkin, B. A. [THE SUMMER MIGRATION OF THE BLACK-HEADED GULL *LARUS RIDIBUNDUS.*] *Commun. Baltic Comm. Study Bird Migration* 7: 101-105. 1972. [From Ibis 115(1), 1973. In Russian with English summ.] *WR 148: 107*

Robertson, C. J. R. TWO UNUSUAL ALBATROSS RECOVERIES. *Notornis* 19(1): 91. 1972. [From Bird-Banding 43(3), 1972.] *WR 148: 107*
"Diomedea epomophora and *D. exulans."*

Salt, George W., and Daniel E. Willard. THE HUNTING BEHAVIOR AND SUCCESS OF FORSTER'S TERN. *Ecology* 52(6): 989-998, 1 fig. Autumn 1971. *WR 148: 107*
[Univ. Calif., Davis.] The effectiveness of attacks by Forster's terns *(Sterna forsteri)* increased from spring to winter; however, the overall hunting success in weight units of fish per hunting time declined steadily. The increased attack efficiency was insufficient to counteract an overall decline in hunting success. Handling time increased proportionally as the length of the fish squared and was a satisfactory index of prey size.--Courtesy/ Paul A. Stewart.

Samorodov, Yu. [NOCTURNAL BEHAVIOR OF SOME GULLS OF THE KUSTANAI REGION.] *Vestn. Mosk. Univ. Biol. Ser.* 26(6): 22-26. 1971. [From Bird-Banding 43(2), 1972. In Russian.] *WR 148: 107*
Daylong watch (via "snooperscope") of *Larus argentatus, L. ridibundus, L. ichthyaetus,* and *Chlidoniae niger.*

Sanger, Gerald A. THE RECENT PELAGIC STATUS OF THE SHORT-TAILED ALBATROSS *(DIOMEDEA ALBATRUS). Biol. Conserv.* 4(3): 169-176. 1972. [From Biol. Abstr. 54(9), 1972.] *WR 148: 107*
[2725 Montlake Blvd. East, Seattle, Wash.]

Savile, D. B. O. EVIDENCE OF TREE NESTING BY THE MARBLED MURRELET IN THE QUEEN CHARLOTTE ISLANDS. *Canadian Field Nat.* 86(4): 389-390. Oct.-Dec. 1972. *WR 148: 107*
[Plant Res. Inst., Central Exp. Farm, Ottawa, Ontario, Canada.] *"Brachyramphus marmoratum."*

Schlatter, Roberto Pablo. SOCIAL ORGANIZATION OF NON-BREEDING SOUTH POLAR SKUAS AT CAPE CROZIER, ANTARCTICA. *Ph.D. thesis, Johns Hopkins Univ.* 146 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(4), 1972.] *WR 148: 107*
"Catharacta maccormicki."

SEABIRDS & THEIR ALLIES--Continued

Scott, J. Michael. INTERBREEDING OF THE GLAUCOUS-WINGED GULL AND WESTERN GULL IN THE PACIFIC NORTHWEST. *Calif. Birds* 2(4): 129-133, illus. 1971. [From Biol. Abstr. 54(7), 1972.] *WR 148: 108*
[Oreg. State Univ., Corvallis.] The biological significance of interbreeding between the glaucous-winged gull *(Larus glaucescens)* and the western gull *(L. occidentalis)*, two closely related species.

Serventy, D. L. THE SHEARWATERS OF SHARK BAY, WA. *Emu* 72(4): 175-177. Oct. 1972. *WR 148: 108*
[27 Everett St., Nedlands, Western Australia, Australia.] Summary: The results of a survey of the population of Wedge-tailed Shearwaters in Shark Bay in 1971, compared with observations made earlier, are given. The breeding population on the five breeding islands was estimated at 600 pairs. On Slope Island the population was obviously being adversely affected by working for salt and probably by predation by foxes. Recommendations are made for safeguarding the birds there. The population is dimorphic and 20-30% are white-phased birds.

Seymour, Norman R. SUCCESS OF THREE GULL SPECIES FEEDING ON SWARMING ANTS IN ANTIGONISH COUNTY, NOVA SCOTIA. *Canadian Field Nat.* 86(4): 391-392. Oct.-Dec. 1972. *WR 148: 108*
[Saint Francis Xavier Univ., Antigonish, Nova Scotia, Canada.]

Shuntov, V. P. [SOME CHARACTERISTICS OF SPATIAL DISTRIBUTION OF MARINE BIRDS WITH RESPECT TO FOOD COMPETITION.] *Zool. Zh.* 51(3): 393-405, illus. 1972. [From Biol. Abstr. 54(12), 1972. In Russian with English summ.] *WR 148: 108*
[Pac. Res. Inst. Mar. Piscic. Oceanogr., Vladivostok, USSR.]

Slater, P. J. B., and E. P. Slater. BEHAVIOUR OF THE TYSTIE DURING FEEDING OF THE YOUNG. *Bird Study* 19(2): 105-113, 1 fig. + 1 pl. June 1972. *WR 148: 108*
[Univ. Sussex, Brighton, England.] "Black guillemot *Cepphus grylle*."

Southern, William E. USE OF THE CANNON-NET IN RING-BILLED GULL COLONIES. *Inland Bird-Banding News* 44(3): 83-93, 2 figs. May-June 1972. *WR 148: 108*
[N. Ill. Univ., DeKalb.] Suggests that data yield of bird banding can be greatly increased by use of cannon nets and describes methods used and results obtained in work with *Larus delawarensis*.--Courtesy/ Paul A. Stewart.

Stein, P. HORUHORU REVISITED / LONGEVITY OF THE AUSTRALIAN GANNET. *Notornis* 18: 310-365. 1971. [From Auk 89(4), 1972.] *WR 148: 108*
"Sula bassana serrator."

Vande Weghe, J. P. RELATIONS ENTRE ADULTES ET JUVENILES CHEZ LA MOUETTE RIEUSE, *LARUS RIDIBUNDUS*, ET LE GOÉLAND CENDRÉ, *LARUS CANUS* EN HIVERNAGE. [RATIOS BETWEEN ADULTS AND JUVENILES FOR BLACK-HEADED AND COMMON GULLS *(LARUS RIDIBUNDUS* AND *L. CANUS)* DURING WINTER.] *Gerfaut* 61: 111-124. 1971. [From Ibis 115(1), 1973.] In French with English summ.] *WR 148: 108*

Vermeer, Kees. COMPARISON OF THE CLUTCH INITIATION OF CASPIAN AND COMMON TERNS AT LAKE WINNIPEG. *Blue Jay* 30(4): 218-220, 3 figs. Dec. 1972. *WR 148: 108*
[Canadian Wildl. Serv., Edmonton, Alberta, Canada.] *"Hydropogne caspia* and *Sterna hirundo."*

HAWKS & OWLS

Andersson, N. A., and B. Persson. [NOTES ON FOOD SELECTION OF THE SNOWY OWL *NYCTEA SCANDIACA* IN LAPLAND.] *Vår Fågelvärld* 30: 227-231. 1971. [From Auk 89 (4), 1972. In Swedish with English summ.] *WR 148: 108*

Broekhuysen, G. J., and W. R. Siegfried. AGE AND MOULT IN THE STEPPE BUZZARD IN SOUTHERN AFRICA. *Ostrich* suppl. no. 8. p. 223-237. 1971. [From Auk 89(4), 1972.] *WR 148: 108*

Brown, J. Clevedon, and G. I. Twigg. MAMMALIAN PREY OF THE BARN OWL *(TYTO ALBA)* ON SKOMER ISLAND, PEMBROKESHIRE. *J. Zool.* (London) 165(4): 527-530. Dec. 1972. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 109*

Brown, L. H. SOME FACTORS AFFECTING BREEDING IN EAGLES. *Ostrich* suppl. no. 8. p. 157-167. 1971. [From Auk 89(4), 1972.] *WR 148: 109*

Buckner, C. H., and T. V. Cole. PARASITES OF A RED-TAILED HAWK. *Manitoba Entomol.* 5: 56. 1971. *WR 148: 109*
[Canadian Forest Serv., 25 Pickering Place, Ottawa, Ontario, Canada.] *"Buteo jamaicensis."*

Buhler, P. SCHLUPHILFE-VERHALTEN BEI DER SCHLEIEREULE, *TYTO ALBA*. [HATCHING-HELP BEHAVIOR OF THE BARN OWL.] *Vogelwelt* 91(4): 121-130. 1971. [From Bird-Banding 43(2), 1972. In German with English summ.] *WR 148: 109*

Carrier, W. Dean, Robert D. Mallette, Sanford Wilbur, and John C. Borneman. CALIFORNIA CONDOR SURVEY, 1971. *Calif. Fish & Game* 58(4): 327-328. Oct. 1972. *WR 148: 109*
"A comparison of the data collected over the past seven surveys indicates that the condor population has remained fairly constant during this time. Fluctuations of the total number seen during the 1965 through 1971 surveys is more an indication of weather conditions during the survey days than it is of any major changes in the actual population structure."

Catling, Paul M. A STUDY OF THE BOREAL OWL IN SOUTHERN ONTARIO WITH PARTICULAR REFERENCE TO THE IRRUPTION OF 1968-69. *Canadian Field Nat.* 86(3): 223-232, 3 figs. July-Sept. 1972. *WR 148: 109*
[104 Victoria Park Ave., Toronto, Ontario, Canada.] Boreal owls, *Aegolius funereus richardsoni*, are reported to move south of their boreal forest breeding range in large numbers during the winter at irregular intervals. In eastern North America these irruptions have occurred in the winters of 1922-23, 1954-55, 1962-63, 1965-66, and 1968-69; and have often been coincident with southward movements of great gray and hawk owls which also inhabit the boreal forest region. Information concerning habitat, winter residence, roosting situations, inter- and intra-specific relationships, and behavior, was obtained in a detailed study of the most recent incursion (1968-69). Data on the food of this species are summarized, and feeding behavior is considered. Analysis of ca. 75 pellets showed *Microtus pennsylvanicus* to be the most important prey species of boreal owls in southern Ontario in the late winter of 1968-69. Size and contents of pellets are discussed.--From abstr.

Choate, Ernest A. SPECTACULAR HAWK FLIGHT AT CAPE MAY POINT, NEW JERSEY ON 16 OCTOBER 1970. *Wilson Bull.* 84(3): 340-341. Sept. 1972. *WR 148: 109*
[Cape May Point, N.J.] Approximately 25,000 sparrow hawks *(Falco sparverius)* passed in one day.--Courtesy/ Paul A. Stewart.

Cracraft, Joel, and Pat Vickers Rich. THE SYSTEMATICS AND EVOLUTION OF THE CATHARTIDAE IN THE OLD WORLD TERTIARY. *Condor* 74(3): 272-283, 10 figs. Autumn 1972. *WR 148: 109*
[Univ. Ill., Chicago.] Courtesy/ Paul A. Stewart.

Dunstan, Thomas C., and Steve D. Sample. BIOLOGY OF BARRED OWLS IN MINNESOTA. *Loon* 44(4): 111-115, 3 figs. Winter 1972. *WR 148: 109*
[Western Ill. Univ., Macomb.]

Garber, David P. OSPREY NESTING ECOLOGY IN LASSEN AND PLUMAS COUNTIES, CALIFORNIA. *M.S. thesis, Calif. State Univ.* (Humboldt). vi + 59 p., 6 figs. Dec. 1972. *WR 148: 109*
Report of a two-year study of the nesting ecology of ospreys *(Pandion haliaetus)* in Lassen and Plumas Counties, California. The objectives of the study were to evaluate the reproductive performance of a representative population of ospreys in northeastern California and to record life history phenomena.

Gargett, V. BLACK EAGLE SURVEY, RHODES MATOPOS NATIONAL PARK: A POPULATION STUDY, 1964-1968. *Ostrich* suppl. no. 8. p. 397-414. 1971. [From Auk 89(4), 1972.] *WR 148: 110*

Glue, David E. BIRD PREY TAKEN BY BRITISH OWLS. *Bird Study* 19(2): 91-95 + 2 pls. June 1972. *WR 148: 110*
[British Trust Ornithol., Beech Grove, Tring, Hertfordshire, England.] *"Tyto alba, Athene noctua, Asio otus, A. flammeus,* and *Strix aluco."*

Golubeva, T. [OPERATION OF THE TYMPANIC MUSCLE IN THE LONG-EARED OWL WHEN SUBJECTED TO A SONAR TONE SIGNAL.] *Vestn. Mosk. Univ. Ser. Biol.* 26(6): 104-106. 1971. [From Bird-Banding 43(2), 1972. In Russian.] *WR 148: 110*

Golubeva, T., A. Chernyi, and V. Ilichev. [AGGREGATE RESPONSES OF THE AUDITORY NERVE AS CORRELATED TO ACOUSTIC SIGNAL PARAMETERS IN *ASIO OTUS*, AND *ATHENE NOCTUA*.] *Zh. Evol. Biokhim. Fiziol.* 6(2): 215-224. 1970. [From Bird-Banding 43(2), 1972. In Russian with English summ.] *WR 148: 110*

Harrell, Byron E. SPECIAL CONFERENCE ON CAPTIVITY BREEDING OF RAPTORS -- A REPORT / PART A. INTRODUCTION. *Raptor Res.* 6 (suppl.): A1-A6. 1972. *WR 148: 110*
[Univ. S. Dak., Vermillion.]

Itämies, J., and H. Mikkola. THE DIET OF HONEY BUZZARDS *PERNIS APIVORUS* IN FINLAND. *Ornis Fenn.* 49: 7-10. 1972. [From Ibis 115(1), 1973.] *WR 148: 110*

Kaliner, G., and J. E. Cooper. DUAL INFECTION OF AN AFRICAN FISH EAGLE WITH ACID-FAST BACILLI AND AN *ASPERGILLUS* SP. *J. Wildl. Dis.* 9(1): 51-55, 2 figs. Jan. 1973. *WR 148: 110*
[Veterinary Res. Lab., P.O. Kabete, Kenya.] *"Haliaeetus vocifer."*

Kenward, R. E. MORTALITIES OF FALCONERS' BIRDS. *Falconer* 5: 314-316. 1971. [From Ibis 115(1), 1973.] *WR 148: 110*

Koivusaari, J., et al. DECREASE IN EGGSHELL THICKNESS OF THE WHITE-TAILED EAGLE IN FINLAND DURING 1884-1971. *Ornis Fenn.* 49: 11-13. 1972. [From Ibis 115(1), 1973.] *WR 148: 110*
Post-1967 eggshells of *Haliaeetus albicilla* were highly significantly thinner than those laid prior to 1935.

Littlefield, Carroll D. SWAINSON'S HAWKS PREYING ON FALL ARMYWORMS. *Southwestern Nat.* 17(4): 432-433. 10 Jan. 1973. *WR 148: 110*
[Univ. Ariz., Tucson.]

Lobachev, V., and M. Linshiz. [RETENTION OF SPECIFIC PLAGUE CAUSATIVE ANTIGENS IN PELLETS OF PREDATORY BIRDS.] *Zool. Zh.* 50(10): 1593-1594. 1971. [From Bird-Banding 43(3), 1972. In Russian with English summ.] *WR 148: 110*
"Athene noctua and *Milvus migrans."*

Locke, L. N., J. A. Newman, and B. M. Mulhern. AVIAN CHOLERA IN A BALD EAGLE FROM OHIO. *Ohio J. Sci.* 72(5): 294-296. Sept. 1972. *WR 148: 110*
[Patuxent Wildl. Res. Cent., Laurel, Md.] Abstract: Avian cholera *(Pasteurella multocida)* infection was diagnosed in an adult male bald eagle *(Haliaeetus leucocephalus)* collected in Ohio. Brain levels of organochlorine pesticides were found to be well below the reported lethal levels; the brain contained 10.7 ppm p,p'-DDE, 0.4 ppm p,p'-DDD, 1.2 ppm dieldrin, 1.1 ppm heptachlor epoxide, and 40.0 ppm polychlorinated biphenyls (PCB).

Looney, Mary W. PREDATION ON BATS BY HAWKS AND OWLS. *Okla. Ornithol. Soc.* 5(1): 1-4. Mar. 1972. [From J. Mammal. 53(3, suppl.), 1972.] *WR 148: 110*

Lugaski, Thomas, David Worley, and Edgar Kleiner. THE FIRST CONFIRMED OCCURRENCE OF WHITE-TAILED KITES *(ELANUS LEUCURUS)* IN NEVADA. *Biol. Soc. Nev. Occas. Pap.* no. 28. 3 p., 1 fig. 20 Apr. 1972. *WR 148: 111*
[Univ. Nev., Reno.] *"Elanus leucurus."*

Mattingly, B. E. INJECTABLE ANESTHETIC FOR RAPTORS. *Raptor Res.* 6(2): 51-52, 1 fig. Summer 1972. *WR 148: 111*
[508 1/2 Prosperity Ave., Albuquerque, N. Mex.]

McGahan, Jerome. BEHAVIOR AND ECOLOGY OF THE ANDEAN CONDOR PARTS I-III. *Ph.D. thesis, Univ. Wis.* 364 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33 (7), 1973.] *WR 148: 111*
"Vultur gryphus."

Mebs, Theodor. ZUR BIOLOGIE DES UHUS *(BUBO BUBO)* IM NOERDLICHEN FRANKENJURA. [OBSERVATIONS ON THE BIOLOGY OF THE EAGLE OWL *(BUBO BUBO)* IN THE NORTHERN FRANCONIAN JURA.] *Anz. Ornithol. Ges. Bayern* 11(1): 7-25, illus. 1972. [From Biol. Abstr. 54(12), 1972. In German with English summ.] *WR 148: 111*
[Aegidiusst. 94, Essen-Bredeney, Germany.] Breeding and feeding habits and conservation measures are presented.

Mikkola, Heimo. NEUE ERGEBNISSE ÜBER DIE ERNÄHRUNG DES URALKAUZES *(STRIX URALENSIS)*. [NEW RESULTS UPON THE FOOD HABITS OF THE URAL OWL *(STRIX URALENSIS)*.] *Ornithol. Mitt.* 24(8): 159-163, 6 figs. Aug. 1972. In German. *WR 148: 111*
[Univ. Oulu, Oulu, Finland.]

Nelson, R. Wayne. ON PHOTOPERIOD AND CAPTIVE BREEDING OF NORTHERN PEREGRINES. *Raptor Res.* 6(2): 57-72, 2 figs. Summer 1972. *WR 148: 111*
[Univ. Calgary, Calgary, Alberta, Canada.] The discussion contains the following: 1. Some basic information on the timing and location of breeding, migrating, and "wintering" northern peregrines *(Falco peregrinus)*; 2. An outline of the daylengths which wild northern peregrines experience through the year; and 3. A table of daylength changes which can be followed through the year in order to give captive birds photoperiods comparable to those to which the wild birds are exposed.

Nord, I. [BIRD OF PREY MIGRATION AT THE COAST OF SÖDERMANLAND, EAST CENTRAL SWEDEN IN 1963 AND 1964.] *Vår Fågelvärld* 30: 33-44. 1971. [From Ibis 115(1), 1973. In Swedish with English summ.] *WR 148: 111*

Olendorff, Richard R. WEIGHING AND MEASURING RAPTORS. *Raptor Res.* 6(2): 53-56. Summer 1972. *WR 148: 111*
[3317 Olympus Dr., Bremerton, Wash.]

Olendorff, Richard R. SPECIAL CONFERENCE ON CAPTIVITY BREEDING OF RAPTORS -- A REPORT / PART B. INCUBATION, NATURAL AND ARTIFICIAL. *Raptor Res.* 6 (suppl.): B7-B35, 1 fig. 1972. *WR 148: 111*
[3317 Olympus Dr., Bremerton, Wash.]

Pasanen, S., and S. Sulkava. ON THE NUTRITIONAL BIOLOGY OF THE ROUGH-LEGGED BUZZARD *BUTEO LAGOPUS LAGOPUS* BRÜNN., IN FINNISH LAPLAND. *Aquilo Ser. Zool.* 12: 53-63. 1971. [From Ibis 115(1), 1973.] *WR 148: 111*

Pennycuick, C. J. CONTROL OF GLIDING ANGLE IN RÜPPELL'S GRIFFON VULTURE *GYPS RÜPPELLII*. *J. Exp. Biol.* 55: 39-46 + 1 pl. 1971. [From Auk 89(4), 1972.] *WR 148: 111*

Pomarnacki, Leopold. LOKATORZY GNIAZD GOLEBIARZA *(ACCIPITER GENTILIS L.)*. [TENANTS OF ABANDONED GOSHAWK NESTS.] *Przegl. Zool.* 15(1): 70-72, illus. 1971. [From Biol. Abstr. 54(9), 1972. In Polish with English summ.] *WR 148: 111*
[Ul. Kelles Krauza 22, Radom, Poland.]

Prescott, Kenneth W. SCREECH OWL KILLS NETTED SPARROWS. *Bird-Banding* 43(2): 143. Apr. 1972. *WR 148: 112*
[15 Timberlane Dr., Pennington, N.J.] The screech owl *(Otus asio)* occupied a roosting cavity near the nets and visited the nets in the early evening.--Courtesy/ Paul A. Stewart.

Richardson, Frank. ACCESSORY PYGOSTYLE BONES OF FALCONIDAE. *Condor* 74(3): 350-351, 3 figs. Autumn 1972. *WR 148: 112*
[Univ. Wash., Seattle.] Courtesy/ Paul A. Stewart.

Schnurre, Otto. ZUR ERNAEHRUNGSBIOLOGIE BRANDENBURGISCHER UND MECKLENBURGISCHER BAUMFALKEN *(FALCO SUBBUTEO)*. [ON THE NUTRITIONAL BIOLOGY OF HOBBIES *(FALCO SUBBUTEO)* OF BRANDENBURG AND MECKLENBURG (EAST GERMANY).] *Milu* 3(2): 222-230. 1971. [From Biol. Abstr. 54(7), 1972. In German.] *WR 148: 112*
[Berlin, Germany.] Factors (pesticides, natural enemies) causing the decrease of hobby populations are discussed. From 1933-1970, the nutrition of 6 hobby pairs of Brandenburg and 3 pairs of Mecklenburg was studied. The different prey and insects are listed. Data on the biotope are given. It is emphasized that species that are endangered or are decreasing should not be ringed.

Schueler, Frederick W. A NEW METHOD OF PREPARING OWL PELLETS: BOILING IN NaOH. *Bird-Banding* 43(2): 142. Apr. 1972. *WR 148: 112*
[Univ. Toronto, Toronto, Ontario, Canada.] Hair and feathers are dissolved, leaving only the bones.--Courtesy/ Paul A. Stewart.

Schuster, Siegfried. DER BESTAND DES WALDKAUZES *(STRIX ALUCO)* AUF DEM BODANRUECK/BODENSEE. [THE STAND OF THE TAWNY OWL *(STRIX ALUCO)* ON THE BODANRUECK BODENSEE.] *Anz. Ornithol. Ges. Bayern* 10(3): 156-161, illus. 1971. [From Biol. Abstr. 54(7), 1972. In German with English summ.] *WR 148: 112*
[Amriseiler St. 11, Radolfzell, Germany.]

Siegfried, W. R. INDETERMINATE BUTEO BREEDING IN THE SOUTH-WESTERN CAPE. *Ostrich* 42: 73-74. 1971. *WR 148: 112*
[Univ. Cape Town, Rondebosch, Cape, South Africa.] *"Buteo oreophilus trizonatus."*

Simpson, Marcus B., Jr. THE SWALLOW-TAILED KITE: A REVIEW OF ITS OCCURRENCE IN THE SOUTHERN APPALACHIANS. *Chat* 36(3): 69-72. Sept. 1972. *WR 148: 112*
"Elanoides forticatus."

Smith, Dwight G., and Beth A. Smith. HUNTING METHODS AND SUCCESS OF NEWLY-FLEDGED GREAT HORNED OWLS. *Bird-Banding* 43(2): 142. Apr. 1972. *WR 148: 112*
[Southern Conn. State Coll., New Haven.] Of 73 attacks on prey by great horned owls *(Bubo virginianus)*, 17.8% were successful. The birds hovered over the prey before making the stoop.--Courtesy/ Paul A. Stewart.

Snelling, J. C. SOME INFORMATION OBTAINED FROM MARKING LARGE RAPTORS IN THE KRUGER NATIONAL PARK, REPUBLIC OF SOUTH AFRICA. *Ostrich* suppl. no. 8. p. 415-427. 1971. [From Auk 89(4), 1972.] *WR 148: 112*

Snow, Carol. HABITAT MANAGEMENT SERIES FOR ENDANGERED SPECIES REPORT NO. 1. AMERICAN PEREGRINE FALCON *FALCO PEREGRINUS ANATUM* AND ARCTIC PEREGRINE FALCON *FALCO PEREGRINUS TUNDRIS*. *U.S. Dep. Inter. Bur. Land Manage. Tech. Note.* 35 p., illus. 15 Nov. 1972. *WR 148: 112*
Description, distribution, status, life history, reproduction, habitat requirements, protective measures instituted, identification of limiting factors, management and research are the major topics of discussion.

Solomatin, A. O. [POPULATION DIFFERENCES IN THE BREEDING OF THE SAKER FALCON IN THE NAURZUM PRESERVE.] *Ekologiya* 2(2): 95-96. 1971. [From Biol. Abstr. 54 (7), 1972. In Russian.] *WR 148: 112*
"Falco cherrug."

Sosebee, J. B. NOTES ON THE ACTIVITY LEVELS OF BURROWING OWLS IN TEXAS. *Bull. Tex. Ornithol. Soc.* 4: 10. 1971. [From Auk 89(4), 1972.] *WR 148: 113*

Swartz, L. G. EXPERIMENTS ON CAPTIVE BREEDING AND PHOTOPERIODISM IN PEREGRINES AND MERLINS. *Raptor Res.* 6(2): 73-87, 3 figs. Summer 1972. *WR 148: 113*
[Univ. Alaska, Fairbanks.]

Tait, William W., H. Malcolm Johnson, and William D. Courser. OSPREY CARRYING A MAMMAL. *Wilson Bull.* 84(3): 341. Sept. 1972. *WR 148: 113*
[P.O. Box 457, Brooksville, Fla.] The unidentified mammal "was approximately the size of a squirrel or small rabbit."--Courtesy/ Paul A. Stewart.

Temple, Stanley A. SEX AND AGE CHARACTERISTICS OF NORTH AMERICAN MERLINS. *Bird-Banding* 43(3): 191-196, 1 fig. July 1972. *WR 148: 113*
[Cornell Univ., Ithaca, N.Y.] Plumage differences separating age and sex groups of pigeon hawks *(Falco columbarius)* are described.--Courtesy/ Paul A. Stewart.

Tubbs, C. R. ANALYSIS OF NEST RECORD CARDS FOR THE BUZZARD. *Bird Study* 19 (2): 96-104, 3 figs. June 1972. *WR 148: 113*
[Nature Conservancy, Shrubbs Hill Rd., Lyndhurst, Hampshire, England.] *"Buteo buteo."*

Vernon, J. D. R. PREY TAKEN BY SHORT-EARED OWLS IN WINTER QUARTERS IN BRITAIN. *Bird Study* 19(2): 114-115. June 1972. *WR 148: 113*
[55 Wolfridge Ride, Alveston, Bristol, England.]

Viksne, J. [INVASION OF THE RED-FOOTED FALCON *FALCO VESPERTINUS* IN LATVIA IN 1959 AND 1968.] *Zool. Mus. Rakstí* 7: 83-86. 1971. [From Ibis 115(1), 1973. In Latvian with English summ.] *WR 148: 113*

Wendland, V. ZUR BIOLOGIE DES WALDKAUZES *(STRIX ALUCO).* [ON THE BIOLOGY OF THE TAWNY OWL *(STRIX ALUCO).*] *Vogelwelt* 93: 81-91. 1972. [From Ibis 115(1), 1973. In German with English summ.] *WR 148: 113*
Results of a 14-year study are summarized.

Wilbur, Sanford R., W. Dean Carrier, John C. Borneman, and Robert D. Mallette. DISTRIBUTION AND NUMBERS OF THE CALIFORNIA CONDOR, 1966-1971. *Am. Birds* 26(5): 819-823, illus. Oct. 1972. *WR 148: 113*
Estimated population of *Gymnogyps californianus* is 50-60 birds.

Zimmerman, David R. MAN AND OSPREY / STRATEGIES FOR SURVIVAL. *Natl. Parks Conserv. Mag.* 47(1): 16-19, illus. Jan. 1973. *WR 148: 113*
One of a series on endangered species.

BLACKBIRDS, STARLINGS, CROWS

Benjamin, Clinton Louis. THE PHYSIOLOGICAL AND HISTOLOGICAL EFFECTS OF 20, 25-DIAZACHOLESTEROL DIHYDROCHLORIDE (SC-12937) ON THE REPRODUCTION OF THE MALE RED-WINGED BLACKBIRD, *(AGELAIUS PHOENICEUS PHOENICEUS). Ph.D. thesis, Ohio State Univ.* 80 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 113*

Boyken, M., and L. P. Elliott. INVESTIGATION OF BIRD ROOST AS A SOURCE OF ENVIRONMENTAL POLLUTION. *Ky. Warbler* 48(4): 56-62. Nov. 1972. *WR 148: 113*
Data gathered in this study failed to produce any distinct proof that the starlings in the Bowling Green area contributed significantly to environmental pollution.--From summ.

Brown, Jerram L. COMMUNAL FEEDING OF NESTLINGS IN THE MEXICAN JAY *(APHELOCOMA ULTRAMARINA)*: INTERFLOCK COMPARISONS. *Anim. Behav.* 20(2): 395-403, 3 figs. May 1972. *WR 148: 114*

[Univ. Rochester, Rochester, N.Y.] Abstract: Observations were made on the individuals that fed the nestlings at six nests in four colour-banded flocks of the Mexican jay in Arizona. Communal feeding of the nestlings was found in one flock for the second successive year. Data collected over the entire nestling period show that helpers accounted for 46 to 68 per cent of the feedings at five nests most intensively studied. At some nests certain individuals brought food to the nestlings more frequently than did the parents.

Conant, Sheila. VISUAL AND ACOUSTIC COMMUNICATION IN THE BLUE JAY, *CYANOCITTA CRISTATA* (AVES, CORVIDAE). *Ph.D. thesis, Univ. Okla.* 171 p. 1972. [From Diss. Abstr. Int. B Sci. Eng. 33(8), 1973.] *WR 148: 114*

Crase, Frederick T., Richard W. DeHaven, and Paul P. Woronecki. MOVEMENTS OF BROWN-HEADED COWBIRDS BANDED IN THE SACRAMENTO VALLEY, CALIFORNIA. *Bird-Banding* 43(3): 197-204, 2 figs. July 1972. *WR 148: 114*

[Bur. Sport Fisheries & Wildl., Box C, Davis, Calif.] About one-half of the April-September recoveries of cowbirds banded at Colusa were north of California, and it is suggested that these reflect a spring migration. Of those remaining in California, about 65% moved to mountainous areas to breed, and the rest remained in the central valley. There is an apparent concentration of cowbirds in the northern Sacramento Valley each fall, with many of the same individuals apparently returning to this area each year.--From summ. Courtesy/ Paul A. Stewart.

Davis, David E., and Frank Peek. STABILITY OF A POPULATION OF MALE RED-WINGED BLACKBIRDS. *Wilson Bull.* 84(3): 349-350. Sept. 1972. *WR 148: 114*

[N.C. State Univ., Raleigh.] "The history of a population of red-winged blackbirds *(Agelaius phoeniceus)* for 8 years illustrates a method of rapid increase after a decline occasioned by a series of drought years. During the drought the number of nesting females declined drastically but the number of males holding territories remained essentially constant. This arrangement permitted rapid increase once conditions became more favorable because the males were ready each year on their territories for the available females."--Courtesy/ Paul A. Stewart.

Davydov, A. [SEASONAL FLUCTUATION OF ENERGY METABOLISM AND THERMOREGULATION IN THE STARLING.] *Zh. Evol. Biokhim. Fiziol.* 8(2): 203-205. 1972. [From Bird-Banding 43(3), 1972. In Russian with English summ.] *WR 148: 114*

"Sturnus vulgaris."

Epps, James M. RECOVERY OF SOYBEAN CYST NEMATODES *(HETERODERA GLYCINES)* FROM THE DIGESTIVE TRACTS OF BLACKBIRDS. *J. Nematol.* 3(4): 417-419, illus. 1971. [From Biol. Abstr. 54(12), 1972.] *WR 148: 114*

[Tenn. Agric. Exp. Sta., Jackson.]

Grodzinski, Z. DAILY FLIGHTS OF ROOKS *CORVUS FRUGILEGUS* AND JACKDAWS *CORVUS MONEDULA* WINTERING IN CRACOW. *Acta Zool. Crakov.* 16(18): 735-772. 1971. [From Ibis 115(1), 1973.] *WR 148: 114*

Hald-Mortensen, P. [JAYS.] *Feltornithologen* 13: 204-207. 1971. [From Ibis 115(1), 1973. In Danish.] *WR 148: 114*

Analysis of the positioning, weight, dimensions and material used in the nests of *Garrulus glandarius.*

Holyoak, David. FOOD OF THE ROOK IN BRITAIN. *Bird Study* 19(2): 59-68, 2 figs. June 1972. *WR 148: 114*

[59 Hersham Road, Walton on Thames, Surrey, England.] Although rooks eat large quantities of grain, their economic status is uncertain because of the quantities of insects they eat. Insects taken include both potentially harmful phytophagous species and their parasites and predators. Much more information

on the interactions of these is necessary to determine whether the rook has an overall beneficial or harmful effect on agriculture. Changes in agricultural practice since these data were obtained (1944-1945) have presumably caused changes in the rook's diet.--From summ.

Joiris, C. ABONDANCE HIVERNALE DE LA CORNEILLE MANTELEE *(CORVUS CORONE CORNIX)* DANS NOS REGIONS AUX XV^me^ ET XVI^me^ SIECLES. [THE ABUNDANCE OF THE HOODED CROW *(CORVUS CORONE CORNIX)* IN BELGIAN REGIONS DURING THE WINTER IN THE 15TH AND 16TH CENTURIES.] *Aves* 8(6): 190-191. 1971. [From Biol. Abstr. 54 (12), 1972. In French.] *WR 148: 115*
[Av. Bel-Air 6, Brussels, Belgium.]

Kalchreuter, Heribert. UNTERSUCHUNGEN AN POPULATIONEN DER RABENKRAEHE *(CORVUS C. CORONE)*. [INVESTIGATIONS ON POPULATIONS OF CROWS *(CORVUS C. CORONE)*.] *Jahresh. Ges. Naturkd. Wuerttemb.* 126: 284-328, illus. 1971. [From Biol. Abstr. 54(12), 1972. In German.] *WR 148: 115*
[Post Guendelwangen, Glashuette, Germany.]

Kok, O. B. BREEDING SUCCESS AND TERRITORIAL BEHAVIOR OF MALE BOAT-TAILED GRACKLES. *Auk* 89(3): 528-540, 6 figs. July 1972. *WR 148: 115*
[Univ. Orange Free State, P.O. Box 339, Bloemfontein, South Africa.] None of a long list of behavioral characteristics could be singled out for close association with reproductive success. Apparently those males with the optimal balance of behavioral patterns tend to be most successful in reproduction.--Courtesy/ Paul A. Stewart.

Kuroda, N. H. [MEASUREMENTS, STOMACH CONTENTS AND INTESTINAL PARASITES IN 13 JUNGLE CROWS OBTAINED IN TOKYO.] *Misc. Repts. Yamashina's Inst. Ornithol.* 6: 73-81. 1970. [From Auk 89(4), 1972. In Japanese with English summ.] *WR 148: 115*

Marler, Peter, Paul Mundinger, Mary Sue Waser, and Ann Lutjen. EFFECTS OF ACOUSTICAL STIMULATION AND DEPRIVATION ON SONG DEVELOPMENT IN RED-WINGED BLACKBIRDS *(AGELAIUS PHOENICEUS)*. *Anim. Behav.* 20(3): 586-606, 9 figs. Aug. 1972. *WR 148: 115*
[Rockefeller Univ., New York, N.Y.] Abstract: Isolated male red-winged blackbirds develop abnormal songs. Some normal components are delivered with abnormal order and timing. Two males deafened at about 10 days of age develop highly abnormal songs, although they retain more structure than other early-deafened songbirds. In masking noise from 8 to 330 days, one individual sings like a deaf bird. With reduced periods of masking singing is more like that of intact birds. Playback of normal song results in imitation. Individual isolates are unselective in learning both conspecific and Baltimore oriole song. Grouped males are more selective. New songs are added in the second year. Improvisation is important in redwing song development under these conditions but its role in the wild remains uncertain.

McCracken, Harry F. STARLING CONTROL IN SONOMA COUNTY. *Proc. 5th Vertebr. Pest Conf.* p. 124-126. 1972. *WR 148: 115*
[Sonoma County Dep. Agric., Santa Rosa, Calif.] *"Sturnus vulgaris."*

Montgomery, Robert A. HOMING EXPERIMENTS WITH BROWN-HEADED COWBIRDS (1934-1938). *Inland Bird Banding News* 44(5): 168-174, 1 fig. Sept.-Oct. 1972. *WR 148: 115*
Reports some results from studies on brown-headed cowbirds *(Molothrus ater)* banded and transported before release by the early American bird bander, Wm. I. Lyon.--Courtesy/ Paul A. Stewart.

Mott, Donald F., Joseph L. Guarino, Paul P. Woronecki, and Willis C. Royall, Jr. LONG-DISTANCE RECOVERIES OF COMMON GRACKLES BANDED IN NORTH-CENTRAL COLORADO. *Colo. Field Ornithol.* no. 12. p. 16. June 1972. *WR 148: 115*
"Quiscalus quiscula."

Orenstein, Ronald I. TOOL-USE BY THE NEW CALEDONIAN CROW *(CORVUS MONEDULOIDES)*. *Auk* 89(3): 674-676, 1 fig. July 1972. *WR 148: 116*
[Univ. Mich., Ann Arbor.] The bird used a slender twig to probe into crevices.--Courtesy/ Paul A. Stewart.

Peek, Frank W. AN EXPERIMENTAL STUDY OF THE TERRITORIAL FUNCTION OF VOCAL AND VISUAL DISPLAY IN THE MALE RED-WINGED BLACKBIRD *(AGELAIUS PHOENICEUS)*. *Anim. Behav.* 20(1): 112-118, 1 fig. Feb. 1972. *WR 148: 116*
[Univ. Minn., St. Paul.] Abstract: Both muted and epaulet-coloured male red-winged blackbirds were less successful than normals in maintaining territory. This suggests that vocal and visual display are necessary for normal territory maintenance in this species. Decreased success was indicated by loss of territory or increased frequency of trespassing by conspecific males. A seasonal difference was noted in the ability of experimental males to maintain their territories. It is suggested that the observed results were probably due to the effects of muting and epaulet-colouration upon advertising song and song-spread and bill-up displays. A three-level territorial defence system is proposed for this species.

Peek, Frank W. THE EFFECT OF TRANQUILIZATION UPON TERRITORY MAINTENANCE IN THE MALE RED-WINGED BLACKBIRD *(AGELAIUS PHOENICEUS)*. *Anim. Behav.* 20(1): 119-122, 2 figs. Feb. 1972. *WR 148: 116*
[Univ. Minn., St. Paul.] Abstract: Reserpine was administered in the field to ten territorial male red-wings to determine what effect reducing their level of overt behaviour would have upon their ability to maintain territory. The four males which received effective doses gave significantly fewer vocal and visual displays and spent progressively less time on their territories as the drug took effect. There was a significant increase in the rate of trespassing upon the territories of tranquilized males; and as tranquilized males spent more time off territory, conspecific males spent correspondingly more time on them. A critical level of behaviour (vocal and visual display and movement) while on territory as well as a critical amount of time on territory seem necessary for normal territory maintenance by male redwings.

Peek, Frank W., Edwin Franks, and Dennis Case. RECOGNITION OF NEST, EGGS, NEST SITE, AND YOUNG IN FEMALE RED-WINGED BLACKBIRDS. *Wilson Bull.* 84(3): 243-249. Sept. 1972. *WR 148: 116*
[Univ. Minn., St. Paul.] Female red-winged blackbirds *(Agelaius phoeniceus)* continued to return to their nest sites when the nest, eggs, and small young were replaced with counterparts from other redwing nests. When young older than 10 days were displaced, females followed the young.--Courtesy/ Paul A. Stewart.

Powell, Robert W. OPERANT CONDITIONING IN THE COMMON CROW *(CORVUS BRACHYRHYNCHOS)*. *Auk* 89(4): 738-742, 1 fig. Oct. 1972. *WR 148: 116*
[Univ. S. Fla., Tampa.] Similar response patterns developed for each of three crows under the same schedule of reinforcement. Behavior of the crows was comparable to that of pigeons, rats, and monkeys.--Courtesy/ Paul A. Stewart.

Puzankova, R. N. [NUTRITION OF TURKISTAN STARLING NESTLINGS IN UZBEKISTAN.] *Uzb. Biol. Zh.* 15(2): 43-45. 1971. [From Biol. Abstr. 54(9), 1972. In Russian.] *WR 148: 116*
[Inst. Zool. Parasitol., Acad. Sci. Uzb. SSR, Tashkent, USSR.]

Ramsey, A. Ogden. MIMESIS IN HAND-REARED BLUE JAYS. *Bird-Banding* 43(3): 214-215. July 1972. *WR 148: 116*
[R.D. 1, Hanover, Pa.] "From these observations it seems clear that the blue jay *(Cyanocitta cristata)* is an imitative species and that some of the calls it mimics in early life may become permanently established."--Courtesy/ Paul A. Stewart.

Ramsey, J. J. OBSERVATIONS ON THE HABITS OF NEST CARE IN THE RED-WINGED BLACKBIRD. *Bull. Tex. Ornithol. Soc.* 2: 24-27. 1968. [From Auk 89(4), 1972.] *WR 148: 117*

Royall, Willis C., Jr., Joseph L. Guarino, and Jerome F. Besser. MOVEMENTS OF REDWINGS COLOR-MARKED IN NORTH-CENTRAL COLORADO IN 1971. *Colo. Field Ornithol.* no. 14. p. 20-23, 1 fig. Dec. 1972. *WR 148: 117*
[Denver Wildl. Res. Cent., Denver, Colo.] *"Agelaius phoeniceus."*

Schafer, Edward W., Jr., and Donald J. Cunningham. AN EVALUATION OF 148 COMPOUNDS AS AVIAN IMMOBILIZING AGENTS. *U.S. Fish Wildl. Serv. Spec. Sci. Rep. Wildl.* no. 150. ii + 30 p. Feb. 1972. For sale at 35¢ by Supt. Documents, GPO, Washington, D.C. *WR 148: 117*
[Denver Wildl. Res. Cent., Denver, Colo.] Abstract: From 1961 to 1969, some 148 compounds were tested for immobilization of red-winged blackbirds *(Agelaius phoeniceus)* and starlings *(Sturnus vulgaris)*. Of these, 25 showed enough promise to warrant advanced testing on seven additional species of wild birds: the common grackle *(Quiscalus quiscula)*, common pigeon *(Columba livia)*, house finch *(Carpodius mexicanus)*, house sparrow *(Passer domesticus)*, mallard duck *(Anas platyrhynchos)*, ring-necked pheasant *(Phasianus colchicus)*, and yellow-headed blackbird *(Xanthocephalus xanthocephalus)*. Although no single compound was best suited for immobilizing all of the nine species tested, Banol (6-chloro-3, 5-xylyl *N*-methyl carbamate) Dowco, 161(O-ethyl-, O-2, 4-dichlorophenyl phosphoroamidate), metomidate [methyl ester of imidazole-5-carboxylic acid; 1-(α-methylbenzyl)], and metomidate HCl possessed exceptional activity on three or more of the species tested. Of the species tested, redwings and house finches were the most sensitive to immobilizing agents, and pheasants the least.

Scherner, Erwin R. BEOBACHTUNGEN AN SCHLAFPLÄTZEN DER STAR *(STURNUS VULGARIS)*. [OBSERVATIONS OF STARLING *(STURNUS VULGARIS)* ROOSTS.] *Ornithol. Mitt.* 24(8): 164-165, 1 fig. Aug. 1972. In German. *WR 148: 117*
[Plauener Strasse 7, Göttingen, Germany.]

Schwab, Robert G., and Vincent S. Schafer. AVIAN THERMOREGULATION AND ITS SIGNIFICANCE IN STARLING CONTROL. *Proc. 5th Vertebr. Pest Conf.* p. 127-137, 4 figs. 1972. *WR 148: 117*
[Univ. Calif., Davis.]

Simpson, George. SOME APPROACHES TO CONTROLLING DEPREDATIONS BY CROWS AND JAYS IN TULARE COUNTY. *Proc. 5th Vertebr. Pest Conf.* p. 112-117. 1972. *WR 148: 117*
[Tulare County Dep. Agric., Visalia, Calif.] *"Corvus brachyrhynchos* and *Aphelocoma coerulescens."*

Stewart, P. A. PREVENTION OF STARLINGS FROM LIFTING SHUTTER ON AUTOMATIC NEST-BOX TRAP. *Bird-Banding* 43(3): 214. July 1972. *WR 148: 117*
[203 Mooreland Drive, Oxford, N.C.] A modification was added to a trap earlier described when it was found that some birds escaped after being captured.

Stone, Charles P. BLACKBIRDS VS. CORN / A DEFINITION OF NATIONWIDE LOSSES. *Farm Quart.* p. 61. Fall 1972. *WR 148: 117*
Results reveal that blackbirds destroy 0.1 to 0.5% of the corn crop annually. In 1971 this loss amounted to 6,850,108 bushels.

Vader, W. INTERTIDAL FORAGING AND TIDAL FEEDING RHYTHM IN A FLOCK OF STARLINGS *STURNUS VULGARIS*. *Sterna* 11: 69-70. 1972. [From Ibis 115(1), 1973.] *WR 148: 117*

Verbeek, Nicolaas A. M. DAILY AND ANNUAL TIME BUDGET OF THE YELLOW-BILLED MAGPIE. *Auk* 89(3): 567-582, 7 figs. July 1972. *WR 148: 117*
[McGill Univ., Montreal, Quebec, Canada.] The female yellow-billed magpie *(Pica nuttalli)* spends 46.1% of its daylight time feeding, 28.3% resting, 13.4% incubating, 4.2% preening, 3.2% in territorial defense, 2.5% flying, 1.7% nest building, 0.4% bathing and 0.2% drinking.--Courtesy/ Paul A. Stewart.

Vilks, K. [CONTRIBUTION TO THE ECOLOGY OF THE RAVEN *CORVUS CORAX* IN LATVIA.] *Zool. Mus. Raketi* 7: 37-46. 1971. [From Ibis 115(1), 1973. In Russian with German summ.] *WR 148: 118*

OTHER BIRDS

Ainley, David G., and Roberto P. Schlatter. CHICK RAISING ABILITY IN ADÉLIE PENGUINS. *Auk* 89(3): 559-566, 2 figs. July 1972. *WR 148: 118*
[Point Reyes Bird Observatory, Box 321, Bolinas, Calif.] Seemingly because of increasing experience in food finding, Adélie penguins *(Pygoscelis adeliae)* raise more and heavier young with increasing age.--Courtesy/ Paul A. Stewart.

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[Acad. Nat. Sci., Philadelphia, Pa.] Songs of blue-winged warblers *(Vermivora pinus)* are less variable where this bird is sympatric with golden-winged warblers *(V. chrysoptera)* than where the latter does not breed. The frequency of interspecific song interchange is less than 3%.--Courtesy/ Paul A. Stewart.

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[Creighton Univ., Omaha, Nebr.] Nesting studies made during 1963-1967 in Ohio and Nebraska.

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[Creighton Univ., Omaha, Nebr.] A total of 272 eggs of the Traill's flycatcher *(Empidonax traillii)* produced 99 fledged young, with a success of 36.4%. Most predation occurred during the first two-thirds of incubation.--Courtesy/ Paul A. Stewart.

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[Del. Mus. Nat. Hist., Greenville.] *"Dendroica palmarum* and *D. coronata auduboni."*--Courtesy/ Paul A. Stewart.

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"Turdus philomelos."

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[Bock: Univ. Colo., Boulder.] With discussions on habitat, nest sites, food, foraging methods, time of breeding, pair relationships, excavation of nest cavity, egg laying, incubation, and the nestling period for *Dendrocopos nuttallii*.--Courtesy/ Paul A. Stewart.

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[Waldhäuser, Germany.]

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Stewart, Robert M., and Kate Darling. BREEDING BIOLOGY OF THE WILSON'S WARBLER IN THE HIGH SIERRA AND ON THE COAST. *Point Reyes Bird Observatory Newsl.* no. 24. p. 3-5. Dec. 1972. *WR 148: 122*
Major topics: arrival, nests, development of young, polygamy, and nesting success.

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REPTILES & AMPHIBIANS

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[Rutgers Univ., Newark, N.J.] Courtesy/ Paul A. Stewart.

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[Southern Ill. Univ., Edwardsville.]

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[Terry E. Graham: Worcester State Coll., Worcester, Mass.] Fourteen species are described.

Ballinger, Royce E., Earl D. Tyler, and Donald W. Tinkle. REPRODUCTIVE ECOLOGY OF A WEST TEXAS POPULATION OF THE GREATER EARLESS LIZARD, *COPHOSAURUS TEXANUS*. *Am. Midl. Nat.* 88(2): 419-428, 4 figs. Oct. 1972. *WR 148: 123*
[Angelo State Univ., San Angelo, Tex.] Abstract: The reproductive cycle of *Cophosaurus texanus*, in the vicinity of San Angelo, Texas, was determined from examination of 220 females and 105 males. Reproduction begins in early April and ceases by mid-august. Females mature in a single year at approximately 50 mm snout-to-vent length. Older females begin reproduction earlier and lay a larger first clutch and produce larger eggs than females just maturing. The smaller eggs of the first clutch of younger females are attributed to the lack of adequate fat storage. Approximately three clutches of six eggs each are laid by each female during 1 reproductive season.

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[N.C. State Univ., Raleigh.]

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[City Univ. New York, New York, N.Y.]

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[Univ. Malaysia, Kuala Lumpur, Malaysia.] *"Phrynella pollicaris, Rana glandulosa, Rhacophorus promianus, R. nigropalmatus, Cacophryne borbonica, Leptobrachium nigrops, Kalophrynus pleurostigma pleurostigma, Rhacophorus nigropalmatus,* and *Bufo asper."*

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[Va. Commonwealth Univ., Richmond.] The relative abundance of 10 spp. of amphibians and 15 spp. of reptiles in Hardin County, Ohio, is assessed on the basis of a 5-yr study.

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[Inst. Zool. Parasitol., Acad. Sci. Uzb. SSR, Tashkent, USSR.]

Bokermann, Werner C. A. NOTAS SOBRE *GASTROTHECA LONGIPES* (BOUL.) AND *G. VIRIDIS* LUTZ E LUTZ (ANURA, HYLIDAE). [NOTES ON *GASTROTHECA LONGIPES* (BOUL.) AND *G. VIRIDIS* LUTZ AND LUTZ (ANURA, HYLIDAE).] *Rev. Bras. Biol.* 31(3): 327-328, illus. 1971. [From Biol. Abstr. 54(8), 1972. In Portuguese.] *WR 148: 123*
[Fund. Parque Zool., São Paulo, Brazil.]

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[Ill. State Univ., Normal.]

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Brushko, Z. K. [CHANGE IN THE WEIGHT OF THE CAUCASIAN BLUNT-NOSED VIPER IN THE SPRING-SUMMER PERIOD.] *Ekologiya* 2(5): 100-102. 1971. [From Biol. Abstr. 54(12), 1972. In Russian.] *WR 148: 124*
[Inst. Zool. Parasitol., Acad. Sci. Uzb. SSR, Tashkent, USSR.] *"Vipera libetina."*

Chabreck, Robert H. THE FOODS AND FEEDING HABITS OF ALLIGATORS FROM FRESH AND SALINE ENVIRONMENTS IN LOUISIANA. *Proc. 25th Ann. Conf. SE Assoc. Game Fish Comm.* p. 117-124. 1972. *WR 148: 124*
[La. Coop. Wildl. Res. Unit, Baton Rouge.] Abstract: Samples from fresh and saline waters in Louisiana showed little relation between foods eaten by young alligators and organisms available in these environments. Crustaceans were the principal foods in both freshwater and saline areas. Alligator stomachs from a freshwater area contained more than 6 times as much food as those from an adjacent saline area. The stomach capacity in the freshwater area was twice as great as in the saline area. The study suggests that young alligators which remain for extended periods in saline areas will have reduced growth rates as a result of reduced food intake.

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[Univ. Ky., Lexington.] *"Sauromalus obesus."*

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[La. Wild Life & Fisheries Comm., Grand Chenier.] Abstract: Wild caught, captive alligators *(Alligator mississippiensis)* over a seven-year period exhibited a successful nesting rate of 48 percent in six pens maintained on Rockefeller Refuge. Hatching success in pens (56 percent) closely correlated the 58 percent determined for wild alligators inhabiting natural marsh. Pen construction methods, stocking rates, and maintenance techniques were implemented to simulate natural marsh conditions, thereby encouraging breeding and contributing to the well being of the alligators. Diseases posed no problem during this investigation although fighting did cause some concern during the early stages of the study. Courtship activities, nest construction techniques and maternal duties following egg laying were highly variable among the various alligators under study. Also, courtship behavior was highly ritualized. Behavior of pen reared alligators as compared to wild captured adult alligators were compared. Stocking rates were found to differ greatly. Pen reared adult animals could be maintained in much closer confinement and under less stress when compared to wild captured adults.

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[Univ. Calif., Berkeley.] Abstract: A unique specimen of gopher snake *(Pituophis melanoleucus catenifer)* lacking dorsal and lateral body scales was used to evaluate the physiological importance of reptilian scales. Its dorsal

integument totally lacked the outer "superficial" dermal layer and possessed a keratin layer much thinner than that of normal scales. In tests of rates of pulmocutaneous water loss and heat transfer, no difference was observed between the scaleless animal and a normal individual of comparable age and size. These data cast doubts upon the assertions that scales are an adaptation to retard water loss or that their presence is significant in convective heat transfer.

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[Univ. Witwatersrand, Johannesburg, South Africa.] *"Bufo regularis* and *B. garmani."*

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[Ind. Univ., Bloomington.]

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[N.Y. Zool. Soc., Bronx Park, Bronx, N.Y.] Abstract: The turtle collection of the New York Zoological Park was tested for the presence of intestinal *Salmonella, Arizona, Citrobacter* and *Edwardsiella* spp. *Salmonella durham* and *Edwardsiella tarda* were isolated from 11 species, representing 37 specimens of the 127 tested, with a resultant apparent rate of infection of 29%. *Arizona* and *Citrobacter* spp. were not isolated.

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[Univ. Utah, Salt Lake City.]

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[Univ. Witwatersrand, Johannesburg, South Africa.] *"Bufo garmani* and *B. rangeri."*

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[203, 820-5th Ave., S.W., Calgary, Alberta, Canada.] *"Crotalus viridis."*

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[Univ. Tex., Austin.] Comparisons are made of the lizard populations in areas of North America, Australia, and Africa.--Courtesy/ Paul A. Stewart.

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[Austin Coll., Sherman, Tex.]

Poniatowska, Teresa, and Kazimierz Galewski. ACTA ZOOLOGICA CRACOVIENSIA 12 (12, 16), 1967. *Published for Smithsonian Institution and the National Science Foundation, Washington, D.C., by the Foreign Scientific Publications Department of the National Center for Scientific, Technical, and Economic Information, Warsaw, Poland.* TT 70-55119. 267 p. 1972. Polish original published by the Polish Academy of Sciences, Warsaw, Poland, in 1967. [Translation available from U.S. Dep. Commerce, National Technical Information Service, Springfield, Va.] *WR 148: 131*
The following paper may be of interest to our readers: Variability in fire-bellied toad *Bombina bombina* (Linnaeus, 1761) of Suwałke Lakeland, Z. Madej. The bulk of this translation is devoted to the beetles of Babia Gora mountains [Polish Western Carpathians] and their habitat.

Porter, Kenneth R. HERPETOLOGY. *W. P. Saunders Co.* (Philadelphia, London, Toronto). xi + 524 p., illus., 7.25 x 10.5 in. 1972. Price $15.95. *WR 148: 131*
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